Industrial Diamond Review

Index January-December 1964

Subject Index	3
Authors' Index	36
Miscellaneous Articles	37
Name Index	37
Geographical Index	39
Trade Name and Company Index	40

Industrial Diamond Review

VOLUME 24 JANUARY to DECEMBER 1964 Nos. 278 to 289

Key to page numbers

No 278, January	pp 1- 24	No 282, May	pp 105-129	No 286, September	pp 212-238
No 279, February	pp 25- 50	No 283, June	pp 131-156	No 287, October	pp 239-265
No 280, March	pp 51- 77	No 284, July	pp 157-182	No 288, November	pp 266-289
N0 281, April	pp 78-104	No 285, August	pp 185-211	No 289, December	pp 290-312

SUBJECT INDEX

A
Ability, cutting of tool affected by heat formed by friction at high cutting speed, 68
Ablation plastics machined with diamond coated tools, 90
Abrasion
resistance
diamond tipped styli, 170
sintered metal matrix, 146
underwater tests of floor coverings,203
Abrasive
diamonds
industrial
lapping, 12
polishing, 12
lens
curve generation, 108
edge grinding, 108
suspended in oil for fine-drilling ultra-hard materials, 54
wheel dressers, 146
fused quartz, highly, 233
grit, 302
machine testing, 149
marks removed with diamond compound on lap
cast-iron, 15
densified wood, 15
mounted points, 11
non-diamond finishing tools, 15
particles crushing machine, 104
rotating discs
flexible, 11
rigid, 11
rubber impregnated
cones, 11
points, 11
slurry, 20
aluminous oxide, 15
silicon carbide, 15
wear of diamond tools, 148
wheels, diamond dressing tools, 216
Abrasiveness
concrete, 161
diamond saw for concrete, 159
aggregate, 159
Abrasives
Aluminium oxide, machine for preparing metallographic specimens,
grinding, 155
polishing, 155
cloth backed, 11
diamond, machine for preparing metallographic specimens
grinding, 155
polishing, 155
granular, machine for testing, 149
particle strength, 149
Absence in diamond
inclusions, 114
naats, 114
stresses, 114
Absorbers, shock, 200, 201, 202
damping force, 202
hydraulic, 299
Absorbing elements, silicon carbide radiation, 262
Absorption, optical of diamond, 64
defects, 64
Accelerators, 85
metal bonded diamond grit wheel for grinding outside diameter on envelopes for power tubes for high power systems in betatron atomic particles klystron, 37
magnetron, 37
Accuracy of diamond tools, 46
Acrylics, 80
Acrylic plastic, fine turning with diamond tools, 68
Actinides, 64
Action, cutting
diamond drill, 243
free of diamond saws, 28
smoothness affected by heat formed by friction at high cutting speed, 68
Activation analysis, slow neutron, 64
Adhesive backing, biochemical cloth with self-, 15
Adsorption of carbon, 10
Advantages of diamond tools for machining glassfibre reinforced plastics, 27
Aeronautical industry, granite plates, 199
Agate
aggregate in concrete, 8
knife edges of beam balances sharpened with diamond compound, 16
products, 110, 111, 112
finish grinding with a copper wheel impregnated with diamond powder, 110
lapping with diamond powder, 110
Aggregate
concrete, 160
agate, 8
diamond saw
abrasiveness, 159
hardness, 159
flint, 8
granite, 266
limestone, 266
hard, 8
Air
bearings
balance problem, 214
grinding spindles, 212, 213, 214
principle, 214
stainless steel outer sleeves ground with corundum stones, 214
conditioning problems, 124
cooling in diamond drilling, 274
cushion portable form grinder, 92
hypersonic speeds, 133
jet flushing cuttings away from laboratory drill, 118
slide ruler, 264
turbine head for mounting diamond impregnated grinding points, 219
Aircraft industry, diamond tools, 132, 133, 134, 135
Airport tower stone facade cut with diamonds, 145
Airstrip sections, sawing, 309
Alloys
base
copper, 148
nickel, 148
hard
cutting tools for fine turning of thermo-plastic, 65
metal, high pressure in developing, 157
light for coating materials, 80
Alluvial diamond deposits in India, 30, 33
Alumina
cylinders, grinding internal diameters with diamond grinding wheel, metal bonded, 37
diamond coated
steel saw for sawing, 91
tools for machining, 90
envelopes, 262
ceramic for vacuum tubes ground with diamond grinding wheels, bonded metal, 36, 37
vitrified, 36, 37
grids for computing systems ground with diamond grit wheels, 37
windows, 262
Aluminium
copying drums finishing
diamond tools, 298
rough with carbide tools, 298
oxide
abrasives, machine for preparing metallographic specimens
grinding, 155
polishing, 155
grit testing machine, 149
slurries for micro-specimen preparation, 12
wind tunnel models finished with diamond pastes, 133
Aluminous oxide abrasive slurry, 15
Amersil quartz, impregnated natural diamond tools
cutting, 233
finishing, 233
Ammonium nitrate explosives, 262
Amplifiers, ultrasonic, 234
Analysis
arc-spectroscopy, 64
blow-pipe for determining a mineral, 170
gas, 64
slow neutron activation, 64
types of gear failure, 97
Anchors, core drill, 264
Ancient craft revolutionised by diamond tooling, 74, 75
Ancillary diamond impregnated saw blades, 294
Angle
diamond tool
clearance, 115
cutting, 115
rake, 115
generator, 154
Annular diamond impregnated bronze wheel for grinding female hemisphere, 281
Anode 'clover leaf' patterns, 89
Anvils, diamond for x-ray camera, 94
Apparatus
electron-tube, 85
wear testing
diamond-head
leather, 204
synthetic floor coverings, 204, 205
rubber, 205
x-ray, 85
Applications
diamond
engineering grit, 192
industrial, 157
sintered metal bonded tools, 148
plasticity, 208
Arc-spectroscopy analysis, 64
Arrangement
infeed of wheelhead unit, 265
tandem of single-blade machines, 9
Ascertaining depth of overburden with percussion drills, 98
Atmospheric dust distribution measured with laser equipment, 186
Atomic
industry, granite plates, 199
particle accelerators, metal bonded diamond grit wheels for grinding outside diameter for power tubes for high power systems in betatron

klystron, 37
magnetron, 37
Attachment
automatic lapping, 48
diamond
truing
grinding wheel, 128
micrometer swing-up, 289
wheel dressing, 289
grinding wheel profiling, 219
work holding, 75
Auger for lifting out sand, 99
Automatic
diamond
dresser
internal crankshaft primary gear grinder, 47
milling machine for decorating jewellery, 182
wheel
dressing, 228
truer, 265
gauging of workpiece, 228
gear line
grinding, 46
shaving, 46
lapping attachment, 48
lathe, 76
machine
flat lapping, 12
gauging, 293
grinding
centreless, 228
ferrites, 72, 73
flute for taps, 289
surface of granite plates with natural diamond grinding wheels, 199
quartz cutting using electrometallic diamond disc, 144
race repairing, 173, 175
semi- for drilling diamond dies, 56
transfer honing, 289, 291
small dust collector, 181
span saw, 8, 9
with four diamond blades, 9
wheel dressing with trapezoidal form diamond dresser, 288
Automatically cut jewellery pattern, 171

B
Backed abrasives, cloth, 11
Backing, biochemical cloth with self-adhesive, 15
Back-up rolls, diamond in manufacture of composite, 141
Balance
perfect of diamond grinding wheel, 80
problem of air bearings, 214
Balances, agate knife edges of beam sharpened with diamond compound, 16
Ball gauging cones, wear problem of precision, 173, 174, 175, 176
Balsam, refractive index of Canada, 108
Band constants of graphite, 10
Bar, tungsten carbide
sintered, cylindrical grinding with diamond wheel, 219
tipped boring, 291
Barrel, diamond
coolant supply, 228
double drill, 48
Barrelling, 288
Base
alloys
copper, 148
nickel, 148
grinding flat on silica blocks, 135
Basic geometry of gears, 97
Batches of components finished with diamond compound on iron lapping wheels, 15
Baulk ring, 46
Mating of steel with a molybdenum surface, 46
Beam
balances, sharpening agate knife with diamond compounds, 16
laser bouncing-off the moon, 187
Bearing surfaces, mirror finishing, 216

Bearings
air
balance problem, 214
grinding spindles, 212, 213
principle, 214
stainless steel outer sleeves, 214
machine tool research, 208
surface finish, 216
interior surface of sintered bronze, 217
tapered roller produced with diamond tools, 190, 191
Bed, lathe
finish grinding, 227
machining on multi-head grinders, 226
milling feet, 227
Behaviour of lasers, 187
Benching with ammonium nitrate explosives, 262
Besly grinding method, 42
Betatron atomic particle accelerators, metal bonded diamond grit wheel for grinding outside diameters on envelopes for power tubes in high power systems
klystron, 37
magnetron, 37
Bevelling mirrors with diamond grinding wheels, 70
Biochemical cloth with self-adhesive backing, 15
Biological considerations, 64
Birefringence of Indian diamonds, 33
Bit
diamond
core, 311
impregnated, 311
thin wall, 294
drill, 225
quality, 274
drilling holes for brass measuring plugs, 50
impregnated for drilling glass, 71
reaming holes, 50
thin wall
creating openings in wall, 96
trepanning tool, 50
roller
drilling
spindle speeds, 61
wildcat wells, 61
penetrating light formation in one operation, 61
Blades
deep cutting, 309
diamond, 9, 294
automatic span saw, 9
bond
bronze, 245
hard wearing for sawing concrete, 244
soft for sawing granite, 244
concrete
cutting, 160, 161
marginal strips on motorways, 253
sawing, reduced costs, 161
dust segmental, 309
impregnated
cutting stone slabs with frame saws, 84
saw, 268, 269, 287
ancillary, 294
cutting transverse expansion joints, 159
self-propelled road sawing machines, 210
life, 8
saw
concrete, 163
sawing, 266
cutting marble, 312
segmented, 198
specifications, 235
tipped, 287
sawing
granite kerbs, 244
metal bonded natural segmented, 220
thin for preparing tooth specimens for microscope study, 19
saw
life
multiplied by four-cycle grinding technique, 79, 80, 81, 82
tool
tungsten carbide, 81
steel, 81
single machine, 8
tandem arrangements, 9
spring steel with diamond particles bonded to the cutting edge for cutting fibreglass, 28, 29
Bladed
diamond
saw
double, 287
multi circular, 287
single, 287
sawing machine, 197, 198, 282
Blanchard grinding method, 40, 41
Blanks, lens
contact machined with diamond tools, 257
curving with diamond impregnated spherical generator, 106
held in position with vacuum chuck, 106
Blast hole drilling with portable diamond drill, 126
Blasting
charge
calculation, 262
distribution, 262
overburden, 262
rock technique, 262
short delay, 262
smooth, 262
tunnel, 262
underwater, 262
Bleed-off holes in concrete culverts, diamond drilling, 137
Blisters in graphite single crystals, 10
Block
breeze, saw for wet cutting, 129
cylinder, 291
machine engraving printing, 2
silica
grinding flat base, 135
machining with diamond grit plated periphery wheels, 135
sides produced with diamond impregnated slitting saw, 135
step-cutting rough shape of profile on top face, 135
Vee production, 180
Blockiness, EMB diamond grit maximum, 192
Blockmaking, 4
process
chemical, 2
photographic, 2
Blow-pipe analysis for determining a mineral, 170
Board, glass for glass
enamelled, 69
hardened, 69
Boart, polishing diamond, 225
Bolt, expanding, 301
Bond
EMB Engineered Metal diamond grit, 192, 193, 194, 195, 196
materials, coolants for protection, 39
hard wearing diamond blade for sawing concrete, 244
type to determine grinding wheel
cutting efficiency, 39
durability, 39
heat generation, 39
Bonds development of grinding wheel for high stock removal, 302
Bonded
covalently crystalline solids, electronic properties, 64
diamond
bronze blade, 245
metal
honing sticks, 291
impreganted
circular saws, 303
reamers, 72
natural
impregnated cup wheel, 179
segmented sawing blades, 220
saws for sawing glass, 70
segments' cutting edge, 9
sintered tools applications, 148
wheels, 225
electrolytic carbide tool grinding machine, 142
grinding
ferrite cup centre post, 72
glass
edging, 69

engraving, 307
stippling, 307
high density alumina ceramic envelopes for vacuum tubes, 36 37
internal diameter for alumina cylinders, 37
tungsten carbide, 42
grit for grinding outside diameters for envelopes for power tubes for high power systems in betatron atomic particle accelerators
klystron, 37
magnetron, 37
impregnated, 144
grinding
diamond stylus on a pointing machine, 112
edging lenses, 106
lapping tools
hand, 133
lathe, 133
pencil edging, 70
peripheral type for eletrolytic tool grinding machine, 142
wet grinding of tungsten carbide cutting tools using kerosene as grinding fluid, 67
resin wheels, 143, 225
grinding, 7
impregnated, 144
grinding, 275
manufacturing, 175
particles to spring steel blades to the cutting edge for cutting fibreglass, 28, 29
soft for sawing granite, 244
tools for limestone
rough shaping, 84
sawing, 84
vitrified grinding wheel for grinding high density alumina ceramic envelopes for vacuum tubes, 36, 37
resin, melting point of wheels, 39
Bonding material of grinding wheel clean, 80
uniform, 80
borehole walls, cleaning metal particles, 249
Bores
honing machines with diamond shoes for internal, 11
removal of marks
chatter, 16
jump, 16
Boring
bars, tungsten carbide tipped, 291
Conrod machine, 144
diamonds, 308
fine of ultra-hard materials
filters, 54
injection nozzles, 54
spinnerets, 54
holes in masonry with diamond drills, vibration, 273
tools
diamond
polished, 144
tipped, 217
tungsten carbide tipped sharpened with diamond grinding wheels, 141, 231
Borides, 262
Boron
carbide slurry, 20
steel nuclear reactor control rods, hard, surface ground with diamond dressed grinding wheels, 141
Borosilicate glass, 281
Bottocino marble, curved precast concrete panels with diamond sawn inserts, 44, 45
Bouncing-off the moon, laser beam, 187
Boundaries, grain in graphite single crystals, 10
Bracelets, 171, 182
gold watch, 74, 75
Brass
lapps for lapping tungsten carbide dies, 16
measuring plugs, holes drilled with diamond bits, 50
Breakage, mechanics of rock, 262
Breakdown phenomena, 85
pre-, 85
Breaker, diamond drill crown with conical part for cylindrical core, 247
Breeze block, saw for wet cutting, 129
Brick cutting machine, 76
Bridge building,
cost, 299
industrial diamonds, 299
Brinell hardness testing machine, visual, 142
Bronze
bearings, surface finish of interior surfaces of sintered, 217
bonded diamond blade, 245
diamond impregnated wheel
annular for grinding female hemisphere, 281
tubular for grinding male hemisphere with mist lubrication, 281
hardness testing, 232
Brown diamond, 33
Build-up of grinding dust overcome by flushing stream of water over grinding wheel and equipment, 59
Building
bridge
cost, 299
industrial diamonds, 299
diamond drilling makes modifications possible, 123
lathe, flow line principles, 226
machinery, 294
wind tunnels with diamond tools, 133
Built-in template truing device for diamond wheel dressing, 227
Burnished finish of spindles, 217
Burnishing pens with diamond tools, 311
Burrs, diamond, 212
Business, industrial diamond tools, 236

C
Calcium
fluoride, samarium in, 186
tungstate, neodymium in, 186
Calculation of blasting charge, 262
Cam profile truing devices, 211
Camera
lenses
cinematograph, 109
television, 109
x-ray with diamond anvils for photographing materials under pressure, 94
Canada balsam refractive index, 108
Capacities, computer storage, 276
Capacity, diamond tools for machining of glassfibre reinforced plastic increases production, 27
Car, window glass for motor
enamelled, 69
hardened, 69
Carbide, 262
cylinders, centreless grinding with diamond wheels, 40
-plated tool steels
finishing with diamond lapping compounds, 275
grinding with daimond wheels, 275
silicon
lapping medium, 281
machine testing grit, 149
machining with diamond coated tools, 90
radiation absorbing elements, 262
slurry
boron, 20
silicon, 20
abrasive, 15
tool
electrolytic grinding machine using metal bonded diamond wheel, 142
peripheral type, 142
machining, 38
rough finishing of aluminium copying drums, 298
temperature conditions, 38
tool wear, 38
tungsten
comparison with particle size of diamond, 39
components, machining, 302
cones,
gauging, diamond grinding, 173
grinding with diamond grinding wheel, 175
die components using selected natural diamonds
hand finishing, 127
lapping, 127
machine grinding, 127
dies
lapping with laps
brass, 16
steel, 16
manufacture with diamond, 127
controlled grit size, 127
end gauges for measuring rollers
diamond ground, 176
grinding
diamond wheels
cup, 40, 41
grinding, 39, 40, 41, 42
metal bonded, 42
peripheral, 40
production, 40
use of coolants, 42
lapping
diamond powder to correct out-of-roundness, 40
rolls, 16
melting point, 39
sintered bar, cylindrical grinding with diamond wheel, 219
stylus, 4
Sweden's production, 177
thermal conductivity, 39
tipped
boring bars, 291
drills sharpened with diamond grinding wheels, 231
milling cutters sharpened with diamond grinding wheels, 139, 231
saws diamond ground, 80
tool
boring sharpened with diamond grinding wheels, 141, 231
lapping with diamond hand laps, 139
maintained with diamond grinding wheels, 201
milling forged steel rolls, 139
resharpening with diamond impregnated grinding wheel, 139
turning
forged steel rolls, 139
resharpened on a diamond grinder, 139
sharpened with diamond grinding wheels, 229, 231
tools
cutting, 7
wet grinding with a metal bonded diamond grinding wheel using kerosene as a grinding fluid, 67
lapping with diamond
paste, 75
resinoid impregnated wheel, 19
life of saw blade, 81
sharpening with diamond grinding wheels, 216
throwaway lathe
grinding with natural diamond wheels, 177
recommending diamond grinding, 179
tips deep ground with diamond grinding wheels, 177, 178, 179
turning, 7
copper coated photogravure printing cylinder, 53
uranium, techniques for drilling samples, 24
vacuum chucking holding equipment, 142
Carbon, 10, 97
absorption, 10
carbonisation, 10
diffusion, 10
friction, 10
graphitization, 10
imperfections, 10
irradiation, 10
permeability, 10
properties
electronic, 10
mechanical, 10
surface, 10
thermal, 10
reactivity, 10
structure, 10
technology, 10

tetrachloride as cleansing material for laps, 15
wear, 10
Carbonization of carbon, 10
Carburizing process, 259
Care of surface finish of hard core drilling diamonds, 297
Carrier, chemical for diamond particles
coolant, 13
increasing cutting power, 15
lubricant, 13, 15
Case
hardened
gear-wheels, hardness measurements, 259
steels, hardness testing, 232
hardening process, hardness measurements, 258, 259, 260
Cases, watch, 113, 171, 182
gold, 74, 75
engraving patterns with natural diamond points, 75
formed on press, 74
polishing with diamond, 206
trimmed on press, 74
turning with a facetted natural diamond tool, 74
Cast-iron
lap
abrasive marks removed with diamond compound, 15
helical slot expanding used with diamond compound, 16
high stock removal, 16
lapping wheels for finishing small batches of components with diamond compound, 15
Cathode surface damage caused by impact of particles, 89
Cause
cathode surface damage by impact of particles, 89
fluorescence in diamond by nitrogen, 64
Ceiling grinder, high, 77
Ceilings, grinder for removing surface irregularities from poured concrete, 77
Cells, photoelectric, 2
Cement, internal heat, 161
Cementing
diamond drill holes, 301
lenses together, 108
Centre
changing face of a town, 83, 84
ferrite cup
post ground with metal bonded diamond wheels, 72
reaming holes, 72
holde grinder with diamond dressing tool, 264
Centreless grinding
carbide cylinders with diamond wheels, 40
fixture, 143
hardened tool spindles, 216
machine, 200
automatic, 228
Centreline joints, 8
Ceramic
high-density alumina envelopes for vacuum tubes ground with diamond
grinding wheels, bonded
metal, 36, 37
vitrified, 36, 37
valve components, machining, 302
Ceramics, 262
cutting
diamond wheels, 238
saw for wet, 129
fragile piezoelectric ground with diamond, 129
metal machined with diamond coated tools, 90
microwave electronics, 262
ultrasonic drilling, 20, 21, 22, 23, 24
diamond probes, 24
penetration rate, 24
speed, 24
vacuum chucking equipment for holding, 142
Chamfering of glass with diamond cup wheels, 70
Changer units, plastic components in record, 219
Changing face of a town centre, 83, 84
Characteristics
materials, 38
sintered metal matrix, 146
Charge, blasting
calculation, 262
distribution, 262
Charts, wall, 131
Chatter marks in bores, removal, 16
Checking hardness of steel parts with diamond hardness tester, 139
Chemical
carrier for diamond particles
coolant, 13
increasing cutting power, 15
lubricant, 13, 15
elements, 64
impurity content of diamond, 64
process for blockmaking, 2
Chemistry
elementary for determination of a mineral, 170
high pressure, 38
Chipboard, 80
Chisel point dresser, diamond, 133
Chloride, polyvinyl fine turned with diamond tools, 68
Chrome steel wind tunnel model, nickel, 133
Chuck for holding lens blank in position, vacuum, 106
Chucking, vacuum equipment
flat grinding with diamond impregnated wheels, 142
holding
carbide, 142
caramics, 142
ferrites, 142
glass, 142
Church tower
diamond drill for restoring, 270, 271, 272, 273, 274
propping, 271
reinforcement with concrete, 271
Cine-film sliced with sapphire stylus, 112
Cinematograph camera lenses, 109
Circuit
electrical printed on fibreglass sheets for electronic computers, 27
magnetic, 277
Cicular diamond
core drill crown with semi face profile, 247
saws
impregnated metal bonded, 305
multi-bladed, 287
Circulating system in wireline core drilling, water, 151
Clean
bonding material of diamond grinding wheel, 80
cut groove, 9
metal surfaces, 86
technically, 86
Cleaning
metal particles from borehole walls, 249
workpiece when using diamond compound, 17
Cleansing material for laps
carbon tetrachloride, 15
ethermeth, 15
Teepol, 15
trichlorethylene, 15
Clearance angle of a diamond tool, 115
Cleavage steps in graphite single crystals, 10
Cloth
backed abrasives, 11
biochemical with self-adhesive backing, 15
'Clover leaf' pattern on anode, 89
Cluster tip for truing of grinding wheels, diamond, 103
Coalfields probed by diamond core drills, 241, 242, 243
Coated
copper photogravure printing cylinder
finishing with diamond tool, 53
turning with tungsten carbide tool, 53
diamond
core drill, 103
steel saw sawing
alumina, 91
granite, 91
tools
high concentration of diamond grit, 91
machining
ablation plastics, 90
alumina, 90
metal ceramics, 90
silicon carbide, 90
special glasses, 90
wheel for trimming leather soles, 43
materials with light alloys, 80
Coldrolling with forged steel rolls
metals
ferrous, 139
non-ferrous, 139
paper, 139
plastics, 139
rubber, 139
Collector of dust, small automatic, 181
Colour work, 2
Combination rotary drilling method, 63
Compacts, powder, 182
Comparative particle size of diamond and tungsten carbide, 39
Comparator for gauging fine wire diameters, optical/electronic, 279
Components
Machining ceramic valve, 302
plastic in record units
changer, 219
player, 219
small batches finished with diamond compound on cast iron lapping wheels, 15
tungsten carbide
die with selected natural diamonds
hand finishing, 127
lapping, 127
machine grinding, 127
machining, 302
Composite back-up rolls manufactured with diamonds, 141
Compound
diamond
cast iron
lapping wheels for finishing small batches of components, 15
laps for helival slot expanding, 16
cleaning of workpiece, 17
contamination, 15
finish polishing of electrode surfaces, 88
general use, 17
lapping
controlled dispenser, 15
finishing carbide-plated tool steels, 275
grades, 15
manufacture of pills, 16
removal of abrasive marks with lap
cast iron, 15
densified wood, 15
sealed syringe-type dispenser, 15
separate lap for separate grade, 17
sharpening
agate knife edges of beam balances, 16
shearing edges of knives, 16
using
correct amount, 17
lubricating fluid, 17
lapping, diamond particles, 13
medium finishing in copper laps, 16
Computer, 209
electronic with electrical circuits printed on fibreglass sheets, 27
storage capacities, 276
Computing systems alumina grids ground with diamond grit wheels, 37
Concave
curve on grinding wheel, 101
edge diamond wheel dressed with corundum wheel, 307
lens curvatures with diamond turning tool, 257
Concavo-convex profile of diamond drill crown, 247
Concentrate of ore, 99
Concentration, diamond,
high in grit in diamond coated tools, 91
low for sawing granite, 244
measuring nitrogen, 185

Concrete
abrasiveness, 161
aggregates, 160
agate, 8
diamond saw
abrasiveness, 159
hardness, 159
flint, 8
granite, 266
limestone, 266
continuous strip, 282
cracks, 161
cutting display, 282, 283, 284
culverts with diamond drilling bleed-off holes, 137
curing, 163
diamond
blade
cutting, 160, 161
marginal strips on motorways, 253
hard wearing bond for sawing, 244
drill
cores cut from test strip, 215
impregnated core for core drilling, 284
portable for drilling, 126
drilling
pre-stressed, 123, 124, 125
reinforced, 123
saw
abrasiveness, 159
blade, 163
sawing, 266
cutting, 8
hardness, 159
removal, 237
floor, 235
sawing
joints, 158, 159
transverse contraction, 266, 268
runway, 197, 198
sawing minimizes random cracking in joints, 159
drills, 294
drilling
floor, 311
machine, 294
reinforced, 311
drying, 163
equipment
joint sawing, 266
surface laying, 266
finishing machine, 266
green, 309
levelling out-of-true, 282
mixer, 266
panels, curved,
moulding, 45
pre-cast with diamond sawn inserts of Botticino marble, 44, 45
pavement
fast coring process, 160, 161
intermediate joints, 161
laid by conventional paving train, 158
stress, 163
paving
saw joint, 160, 161, 162, 163
random cracking problem, 163
train, 266
poured ceilings, grinder for removing surface irregularities, 77
reinforcement of church tower, 271
road-making plant, 266
saws, 294
hydraulic wall, 155
portable, 236
wet cutting reinforced, 129
sawing, 160
daylight, 163
machine, 294, 309
reduction in cost
diamond blades, 161
labour, 161
sections from floor, 126
setting time, 160
slab cutting machine, 76
wire mesh-reinforced, 8
Conditioning, problems of air, 124
Conditions of temperature of tools
carbide, 38
oxide, 38
Conduction counting in diamond, 64
Conductivity
diamond
electrical, 64
photo-, 64
semi-, 64
thermal
sintered metal matrix, 146
tungsten carbide, 39
Cones
diamond grinding wheel grinding tungsten carbide, 175
gauging
precision ball wear problem, 173, 174, 175, 176
tungsten carbide diamond grinding, 173
rubber impregnated abrasive, 11
Conglomerates, diamond deposits in India, 30, 31, 32, 33
Conical part for cylindrical core breaker in diamond drill crown, 247
Connecting rod, piston ground with diamond dressed wheels, 46
Conrod machine
boring, 144
grinding, 144
Considerations
biological, 64
geochemical, 64
geological, 64
Consistency of subsoil in dam foundations, 168
Constant
band in graphite, 10
dielectric in diamond, 64
Construction of dam, diamond drilling of granite, 168
Contact
lens
contouring, 257
edging, 257
haptic glass, 254
lathe using diamond tipped tool, 254
machining blanks with diamond tools, 257
plastic corneal, 254
tailor-made, 254, 255, 256, 257
pressure, high drilling, 61
stylus, profilometer with sapphire, 65
Contamination of diamond compound, 15
Content of diamond, chemical impurity, 64
Continuous concrete strip, 282
Contouring contact lenses, 257
Contraction
helical type lap for shaft lapping, 16
joints, diamond sawing, 282
concrete transverse, 266, 268
Control
hydraulic unit, 22
machine tool research, 208
nuclear reactor rods of hard boron steel surface ground with diamond dressed grinding wheels, 141
precision honing, 291
quality, 232
Controlled
depth of cuts made with diamond tools, 75
diamond
grit size in the manufacture of tungsten carbide dies, 127
synthesis, 234
dispenser of diamond lapping compound, 15
feed
hydraulic unit, 22
rate, 22
Conventional paving train laying concrete pavement, 158
Convex
concavo- profile on a diamond drill crown, 247
curve on grinding wheel, 101
lens curvatures, diamond turning tool, 257
radius dressed on a large grinding wheel with a diamond tool, 58, 59
Convexing edges ground with diamond grinding wheels, 305
Cookers, domestic with dial plates of glass
enamelled, 69
hardened, 69
Coolant
chemical carrier for diamond particles, 13
grinding
emulsion type, 70
filter, 92
tungsten carbide, 42
kerosene, 22
protecting bond materials, 39
supply through diamond barrel, 228
water used for diamond drilling produces no dust, 123
Cooled, water- diamond drills, thin-walled, 70
Cooling
air in diamond drilling, 274
driller's mud for diamond core drill, 118
Copper
base alloys, 148
coated photogravure printing cylinder
finishing with diamond tools, 53
turning with tungsten carbide tools, 53
laps with medium finishing compound, 16
plate, 2
engraving, 2
wheel impregnated with diamond grit for glass engraving, 164, 167
powder for finish grinding of agate products, 110
wire, diamond dies for drawing ultra-fine, 76
Copy turning tools, regrinding, 179
Copying drums, aluminium
finishing with diamond tools, 298
rough finishing with carbide tools, 298
Core
breaker, diamond drill crown with conical part for cylindrical, 247
diamond
bit, 311
impregnated, 311
thin wall, 294
drill, 282, 311
coated, 103
cooling with driller's mud, 118
crown with semi-circular face profile, 247
pressure loss, 210
probing
coalfields, 241, 242, 243
strata below dam site, 168
thin-walled water-cooled, 70
drilling
difficult strata, 153
exploratory, 241, 243
high spindle speeds, 61
drill anchors, 264
drilling
concrete with diamond impregnated coring drills, 284
diamonds, hard, 295, 296, 297
care of surface finish, 297
drilling, 297
flawed particles
removal, 295
rounding, 295
laboratory tests, 297
performance, 295
polishing surface, 295
proper use, 297
selection by shape, 295
wireline, 150, 151, 152, 153
pump design, 153
water
circulating system, 151
pump, 151
recovery, 118
deep holes, 150
mechanism, 243
sampling with portable vertical diamond drill, 215
Cores
cut from concrete test strip with diamond drill, 215
sample, special rig for diamond drilling, 18
tiny ferrite ring, microtoroids, 276
Coring
diamond impregnated drill for core drilling of concrete, 284
fast process in concrete pavement, 160, 161
Corneal contact lenses, plastic, 254
Correct
diamond
compound amount, 17
crown shape
head, 246

profile, 246
out-of-roundness, lapping of tungsten carbide with diamond powder, 40
Correction of ruby rods for laser use, local, 186, 187, 188, 189
Corundum
stones for grinding stainless steel air bearings outer sleeves, 214
wheel
dressed with single-point diamond, 307
dressing concave edge diamond wheel, 307
Cosmos, 64
Cost
bridge building, 299
diamond
blades in concrete sawing reduced, 161
tooling in stone industry cut, 172
tools, 229
wheels, 82
grinding, 7
labour in concrete sawing reduced, 161
Counting in diamond
conduction, 64
scintillation, 64
Covalently-bonded crystalline solids, electronic properties, 64
Coverings, floor
under-water abrasion test, 205
wear testing with diamond-head apparatus of synthetic, 204, 205
Cracking
diamond drill crown, 246
random
concrete joints minimized by daimond sawing, 159
problem in sawn joints in concrete paving, 163
Cracks in concrete, 161
Craft, diamond tooling revolutionizes ancient, 74, 75
Crankgrinder with diamond dressing, 47
Crankshaft
grinding, 231
primary gear grinding with automatic diamond dressers, internal, 47
Creating openings in walls with thin-walled diamond bits, 96
Crown
dependence of torque on revolution speed, 249
diamond
correct shape
head, 246
profile, 246
producing, 157
drill
diamond
concavo-convex profile, 247
conical part for cylindrical core breaker, 247
cracking, 246
design, 247
drilling qualities of diamond, 247
manufacture, 247, 249
pattern of fluid grooves, 246
penetration rate, 250
mechanical, 249
placing method, 246
rhombododecahedrons in wear resistant, 249
semi-circular face profile, 247
set, 239, 241
setting pattern, 247
smooth facetted octahedron, 249
tests, 246
trapezoidal threads, 247
selection of diameters, 246
drilling, set with smaller diamonds, 249
Crush forming device, 211
Crushed diamond, 302
Crusher, rotary impact with EMB diamond grit, 193
Crushing
diamonds, 12, 192
EMB procedure, 224
machines for abrasive particles, 104
Crystal
diamond
luminescence indicating degree of perfection, 64
structure, 64
edge in graphite single crystals, 10
Crystalline solids, electronic properties of covalently-bonded, 64
Crystallography for defining a mineral, 170
Crystals
graphite single
blister, 10
cleavage steps, 10
crystal edge, 10
grain boundaries, 10
oxidation, 10
growth, 234
mechanical
strength of diamond, 249
twinning, 234
Cuff-links, 171
Culverts diamond drilling
bleed-off holes in concrete, 137
sewer to overcome detergent foaming, 136, 137
Cup
ferrite
centre
post ground with metal-bonded diamond wheels, 72
reaming holes, 72
pressed powdered ground with diamond wheels, 72
wheels, diamond
chamfering of glass, 70
grinding tungsten carbide, 40, 41
impregnated, 310
natural metal bonded, 179
Curing
concrete, 163
plastic resin, 175
Curvature
diamond faces, 33
lens, diamond turning tool
concave, 257
convex, 257
Curve
generation of lenses with diamond abrasive, 108
grinding wheel
concave, 101
convex, 101
Curved concrete panels
moulding, 45
precast with diamond sawn inserts of Bottocino marble, 44, 45
Curving lens blanks with diamond impregnated spherical generator, 106
Cushion, air portable for grinder, 92
Cut
clean-, groove, 9
cores from concrete test strip with diamond drill, 215
depth, 65
diamond
according to structure, 114
tooling costs in stone industry, 172
tools are depth controlled, 75
jewellery pattern automatically, 171
rough hogging of glassfibre reinforced plastic with diamond wheels, 27
Cutter
cutting glass with single point diamond, 69
grinding machine, 144, 263
milling
tungsten carbide tipped sharpened with diamond grinding wheels, 139, 231
electrolytic grinding, 303
Cutting
ability of tool affected by heat formed by friction at high cutting speed, 68
action
diamond
drill, 243
saws, free, 28
smoothness affected by heat formed by friction at high cutting speed, 68
angle of diamond tool, 115
blades, deep, 309
diamond
blade concrete, 160, 161
marginal strips on motorways, 253
matrix discs for grooving ferrite plates, 278
products, industrial, 252
saws
concrete, 8
impregnated, hard PVC, 28
wheels
ceramics, 238
glass, 238
grinding
fast, 80
free, 80
impregnated, fused silica, 133
inside, 238
quartz, 238
sapphire, 238
display, concrete, 282, 283, 284
edge
diamond
metal bonded segments, 9
tool, 115
multiple, 116
fibreglass cut with spring steel blades bonded with diamond particles, 28, 29
efficiency
diamond impregnated probes, 21
grinding wheel determined by type of bond, 39
fibreglass reinforced plastic with diamond
impregnated saw, 28
producing dust, 29
fluids, 38
glass with diamond
single point glass cutter, 69
thin, 305
glassfibre reinforced plastics with diamond grit as medium, 27
limestone with diamond saws, 145
machine
brick, 76
concrete slab, 76
diamond saw, 154
glazed tile, 76
stone, 76
tools for gear, 97
marble
diamond saw blades, 312
economics by using industrial diamonds, 172
mechanics research, 208
medium, diamond grit for glassfibre reinforced plastic, 27
metal principles, 38
-off machines for grooving ferrite plates, 278
perspex with diamond impregnated saws, 28
power of diamond particles increased by chemical carrier, 15
quartz
Amersil with impregnated natural diamond tools, 233
automatic machine using electrometallic diamond disc, 144
rough of rough diamond, 115
speed, 65
high
diamond tools when machining glassfibre reinforced plastic, 27
heat formed by friction affects
cutting ability of tool, 68
increased quality of surface finish, 68
smoothness of cutting action, 68
step-, rough shape of profile on top face of silicon blocks, 135
stone
economics by using industrial diamonds, 172
facade with diamonds, 207
airport tower, 145
natural with diamond tools, 84
rough into slabs with diamond edged disc saw, 145
slabs with frame saws fitted with diamond impreganted blades, 84
tool
diamond
efficiency, 116
great strength, 68
high surface finish when machining plastics, 68
manufacture, 117
turning resins, 65
geometry, 65, 68
hard alloy for fine turning of thermoplastic, 65
tip nose radius surface finish quality, 68

tungsten carbide, 7
wet grinding with a metal-bonded grinding wheel using kerosene as a grinding fluid, 67
wet with saw
breeze block, 129
ceramics, 129
firebrick, 129
glass, 129
natural stone, 129
refractories, 129
reinforced concrete, 129
Cuttings flushed away by air jets from laboratory drill, 118
Cycle grinding technique multiplying saw blade life, four, 79, 80, 81, 82
Cylinder
alumina grinding internal diameters with metal bonded diamond grinding wheel, 37
block, 291
carbide, centreless grinding with diamond wheels, 40
copper coated photogravure printing
diamond tool
finishing, 53
machining, 52, 53
turning with tungsten carbide tool, 53
head, 291
liners
diamond honing, 290, 291, 292, 293
perlitic iron, 291
Cylindrical
core breaker with conical part on diamond drill crown, 247
grinding
machine, 289
sintered tungsten carbide bar with diamond wheel, 219

D
Dam
construction, diamond drilling of granite, 168
design
geological factors, 168
safety, 168
foundations, subsoil consistency, 168
gravity, 168
site, diamond core drill probing strata below, 168
Damage
caused on cathode surface by impact of particles, 89
diamond drilling, 124
internal structure of reinforced plastic, 28
radiation
effects in diamond, 64
graphite, 10
Damping force in shock absorbers, 202
Daylight sawing of concrete, 163
Decorating jewellery with automatic diamond milling machine, 182
Decorators of glass in Holland, 164, 165, 166, 167
Deep
cutting blades, 309
drilling depths, 63
grinding of tungsten carbide tool tips with diamond grinding wheels, 177, 178, 179
holes core recovery, 150
well drilling industries, 61
Defects in diamond
emission properties, 64
lattice, 64
optical absorption, 64
Definition of a mineral through
crystallography, 170
physical properties, 170
Deflecting diamond drill holes, 301
Degree of perfection of the crystal indicated by luminescence of diamond, 64
Delay blasting, short, 262
Densified wood lap with diamond compound removes abrasive marks, 15
Density
high-, alumina ceramic envelopes for vacuum tubes ground with diamond bonded grinding wheels
metal, 36, 37
vitrified, 36, 37
Dental diamond drill, 303
Dependence of the torque of the crown on revolution speed, 249
Depending, surface finish quality on nose radius of cutting tool tip, 68
Deposits of diamond in India, 30, 31, 32, 33, 34, 35
alluvial, 30, 33
eluvial, 30
evaluation, 35
conglomerates, 30, 31, 32, 33
geology, 30
pipes, 30, 31
residual, 30, 31
Depth
cut, 65
made with diamond tools are controlled, 75
deep drilling, 63
overburden ascertained with percussion drills, 98
Description of diamond, 170
Design
dam
geological factors, 168
safety, 168
diamond drill crown, 247
gear, 97
machine tool, 209
mechanical engineering, 234
pump in wireline core drilling, 153
Designed machines for diamond tools, specially, 116
Detectors of radiation, 234
Detergent foaming overcome by diamond drilling of sewer culverts, 136, 137
Determination of a mineral through
blow-pipe analysis, 170
elementary chemistry, 170
Determined by type of bond of grinding wheel
cutting efficiency, 39
durability, 39
heat generation, 39
Developing
bonds of grinding wheels for high stock removal, 302
high pressures in hard metal alloys, 157
Development
diamond
mechanical properties, 185
tool, 302, 303, 304
grinding wheel, 302
optical masers, 187
Device
diamond profile for shaping grinding wheels, 141
forming
crush, 211
peripheral wheel, 226
pulsed
neodymium glass, 189
ruby, 189
solid state, 189
pulsed, 189
truing
profile
cam, 211
diamond roller, 211
pantograph, 211
template built-in for diamond wheel dressing, 227
Dial
plates
domestic cookers of glass
enamelled, 69
hardened, 69
manufacture of front, 71
radios of glass
enamelled, 69
hardened, 69
washing machines of glass
enamelled, 69
hardened, 69
watch, 113
Diameter
internal of alumina cylinders ground with metal bonded diamond grinding wheel, 37
optical/electronic comparator for gauging fine wire, 279
outside on envelopes for power tubes for high power systems in betatron
atomic particle accelerators ground with metal bonded diamond grit wheels,
klysron, 37
magnetron, 37
selection of drill crown, 246
Diamond
abrasive
lenses
curve generation, 108
edge grinding, 108
suspended in oil for fine drilling
ultra-hard materials, 54
wheel dressers, 146
abrasives for preparing metallographic specimens on machine
grinding, 155
polishing, 155
absence
inclusions, 114
naats, 114
stresses, 114
anvils for photographing materials under pressure with x-ray camera, 94
barrel for coolant supply, 228
bit
creating openings in wall with thin walled, 96
holes
drilling for brass measuring plugs, 50
reaming, 50
thin walled used as a trepanning tool, 50
blade, 9
bond
bronze, 245
hard wearing for sawing concrete, 244
soft for sawing granite, 244
concrete
cutting, 160, 161
saw, 163
life, 8
bladed sawing machine, 197, 198, 282
blades, 294
automatic span saw, 9
cutting concrete marginal atrips on motorway, 253
dust segmental, 309
sawing
concrete, reduction in cost, 161
granite kerbs, 244
thin for preparing tooth specimens for microscope study, 19
boart polishing, 225
boring, 308
brown, 33
burs, 212
chemical impurity content, 64
cluster tips for truing of grinding wheels, 103
coated
core drill, 103
steel saw sawing
alumina, 91
granite, 91
tools
high concentration of diamond grit, 91
machining
ablation plastics, 90
alumina, 90
metal ceramics, 90
silicon carbide, 90
special glasses, 90
comparative particle size with tungsten carbide, 39
compound
abrasive marks removed
cast-iron lap, 15
densified wood lap, 15
cast-iron lapping wheels for finishing small batches of components, 15
cleaning workpiece, 17
contamination, 15
finish polishing of electrode surfaces, 88
general use, 17
helical slot expanding cast-iron laps, 16
lapping
controlled dispenser, 15
finishing carbide-plated tool steels, 275
grades, 15

manufacture of pills, 16
sealed-syringe type dispenser, 15
separate lap for separate grade, 17
sharpening
agate knife edges of beam balances, 16
shearing edges of knives, 16
using
correct amount, 17
lubricating fluid, 17
concentration
low for sawing granite, 244
measuring nitrogen, 185
conduction counting, 64
conductivity
electrical, 64
semi-, 64
controlled grit size in the manufacture of tungsten carbide dies, 127
core
bit, 311
thin-walled, 294
drill, 282, 311
crown with semi-circular face profile, 247
pressure loss, 210
drilling, exploratory, 241, 243
crowns
correct shape
head, 246
profile, 246
producing, 157
crushed, 302
crushing, 12, 192
crystals mechanical strength, 249
cut according to structure, 114
cutting
angle of tool, 115
fibreglass reinforced plastics produces dust, 29
marble, using industrials for economics, 172
stone
facade, 297
airport tower, 145
using industrials for economics, 172
thin glass, 305
defects
emission properties, 64
lattice, 64
optical absorption, 64
deposits in India, 30, 31, 32, 33, 34, 35
alluvial, 30, 33
conglomerates, 30, 31, 32, 33
eluvial, 30
evaluation, 35
geology, 30
pipes, 30, 31
residual, 30, 31
description, 170
dielectric constant, 64
die drawing, 279
ultra-fine copper wire, 76
discoveries history, 170
dressed wheels for grinding
idler gear sleeve, 47
piston connecting rods, 46
dresser, 288, 289
automatic on internal crankshaft primary gear grinding, 47
no resetting, 180
point
chisel, 133
single, 231
protection from grinding dust, 119
trapezoidal form for automatic wheel dressing, 288
dressing
crank grinder, 47
equipment, 217
tools
diamond grit salvaged, 175
single-point
manufacturing, 92
re-setting, 92
unit on single spindle, multiple natural, 77
wheels, 19
grinding, 190
radiusing, 176
drill
bits, 225
quality, 274
core
cooling with driller's mud, 118
probing
coalfields, 241, 242, 243
strata below dam site, 168
thin-walled water-cooled, 70
cores cut from concrete test strip, 215
crown
concavo-convex profile, 247
cracking, 246
cylindrical core breaker with conical part, 247
design, 247
drilling qualities of diamond, 247
manufacture, 247, 249
method of placing, 246
pattern
diamond setting, 247
fluid grooves, 246
penetration rate, 250
mechanical, 249
rhombododecahedrons in wear resistant, 249
set, 239, 241
smooth facetted octahedron, 249
tests, 246
trapezoidal thread, 247
cutting action, 243
dental, 303
double barrel, 48
drilling
granite foundations, 96
hole in fibreglass reinforced plastics, 28
glass, 303
holes
cementing, 301
deflecting, 301
vibration of boring in masonry, 273
portable, 126
core sampling with vertical, 215
drilling
blast holes, 126
concrete, 126
exploratory, 126
masonry, 126
restoring church tower, 270, 271, 272, 273, 274
drilling
air cooling, 274
concrete
bleed-off holes in culverts, 137
pre-stressed, 123, 124, 125
reinforced, 123
core, high spindle speeds, 61
crowns set with smaller, 249
culverts in sewer to overcome detergent foaming, 136, 137
damage, 124
dies with semi-automatic machine, 56
equipment, 246
field tests, 250
glass, 307
doors, 70
granite in dam construction, 168
modifications in buildings, 123
qualities in diamond drill crowns, 247
rigs
flexible, 96
simplifying plumbing jobs, 104
special for sample cores, 18
routing pipes, 125
speed, 96
techniques, 246
using water coolant produces no dust, 123
weep holes, 124
wells,
gas, 246, 247, 248, 249, 250
oil, 246, 247, 248, 249, 250
EMB natural, 192, 193, 194, 195, 196
economical use, 40
edge disc saw
cutting rough stone into slabs, 145
trimming facing slabs to size, 145
electroluminescence, 64
electrolytically plates drills, 144
electrometallic disc for automatic quartz cutting machine, 144
energy
gap, 64
level, 64
engraved glass, 164, 167
engraving
pencil, 164, 167
revival of glass, 167
faces curvature, 33
fields in India, modern mining methods, 25
file, 211
finishing
dice, 128
goldwatch cases, 74
fluorescence caused by nitrogen, 64
follower fitted on lathe, 176
glass cutter with single point, 69
good lustre, 33
grading, 12
grain, 144
graphitization, 10
green, 33
grey, 33
grinder for resharpening tungsten carbide tipped
milling, cutters, 139
turning tools, 139
grinding
fragile piezoelectric ceramics, 129
glass, 305
lenses, 106, 107, 108, 109
machines for grinding plate glass, 69
tungsten carbide
end gauges for measuring rollers, 176
gauging cones, 173
tipped saws, 80
throwaway lathe tools, 179
wheel, 289
bevelling mirrors, 70
bonded
metal
glass
edging, 69
engraving, 307
stippling, 307
grinding
high-density alumina ceramic envelopes for vacuum tubes, 36, 37
internal diameter for alumina cylinders, 37
tungsten carbide, 42
resin, 7
vitrified for grinding high-density alumina ceramic envelopes for vacuum tubes, 36, 37
bonding material
clean, 80
uniform, 80
cost halved, 7
cutting
fast, 80
free, 80
deep grinding of tungsten carbide tool tips, 177, 178, 179
formed, 289
grinding
convexing edges, 305
mirrors, 70
ruby rods, 189
saw tips, 81
sheet glass, 305
tungsten carbide, 39, 40, 41, 42
cones, 175
cutting tools with metal bonded using kerosene as grinding fluid, 67
long life, 70
maintaining tungsten carbide tipped tools, 201
natural for grinding granite plates on automatic surface grinder, 199
perfect balance, 80
peripheral, 175
profile, 302
standardisation, 7
tool grinding machines, 302
grit, 312
applications of engineering, 192
copper wheels for glass engraving, 164, 167
EMB Engineered Metal Bond, 192, 193, 194, 195, 196, 221, 222, 223, 224
impact strength, 192, 193, 196
maximum
blockiness, 192
efficiency of particles, 224
natural testing, 221, 222, 223, 224
particle
shape, 224

size, 193
performance, 192, 221
process, 193, 195, 196
'pull-outs', 224
rotary impact crusher, 193
sawing
glazed tiles, 223
marble, 223
refractories, 223
shape, 192
size range, 221
high concentration in diamond coated tools, 91
medium for glassfibre reinforced plastic
cutting, 27
grinding, 27
natural, 224
plated peripheries for wheels for machining silica blocks, 135
quality, 192
quantity of fines generated, 192
salvaged from worn diamond dressing tools, 175
screening, 195
size distribution pattern, 192
synthetic, 192
testing machine, 149
wheel for grinding
alumina grids for computing system, 37
outside diameters on envelopes for power tubes for high power systems in betatron atomic particle accelerators with metal
bonded klystron, 37
magnetron, 37
working of sapphire, 110
hard core drilling, 295, 296, 297
care of surface finish, 297
drilling, 297
flawed particles
removal, 295
rounding, 295
laboratory tests, 297
performace, 295
polishing surface, 295
proper use, 297
selection, by shape, 295
hardness, 39
measurements, 258
natural, 127
precision, 258
tester, 144
checking hardness of steel parts, 139
testing machine
foils, 143
small parts, 143
thin materials, 143
pyramid
forged steelwork rolls, 139
visual testing machine, 142
-head apparatus for wear testing
leather, 204, 205
synthetic floor coverings, 204, 205
hexakis-octahedra form
high pressure resistance,
holder, 289
mounting, 115
wheel truing fixture, 102
hones, 16
honing
cylinder liners, 290, 291, 292, 293
metal bonded sticks, 291
impregnated
bit
core, 311
drilling glass, 71
blades
cutting stone slabs with frame saws, 84
saw
ancillary, 294
cutting transverse expansion joints, 159
self-propelled road sawing machines, 210
coring drills for core drilling of concrete, 284
dresser, 200, 201
files, 303
grinding
disc for electrolytic grinding machine, 143
points
making die inserts, 219
mounted on air turbine heads, 219
wheel, 175
bonded
metal for edging lenses, 106
resinoid, 275
edging high precision lenses, 105
grinding spherical joints, 281
hones for honing
finish, 291
rough, 291
honing
heads, 289
stones, 231, 232
probes
efficiency
cutting, 21
grinding, 21
power output, 21
rate of feed, 21
reamers, metal bonded, 72
saws
cutting
fibreglass reinforced plastic, 28
hard PVC, 28
perspex, 28
metal bonded circular, 305
slitting for producing sides of silica blocks, 135
spherical generator for curving lens blanks, 106
tools for stopcock grinding, 280, 281
wheel
bonded
metal for grinding diamond stylus on a pointing machine, 112
resin
lapping tungsten carbide tools, 19
manufacturing, 175
bronze
anuular for grinding female hemisphere, 281
tubular using mist lubrication for grinding male hemisphere, 281
cup, 310
polishing marble, 312
inclusions absence, 114
indenter, 144, 232
hardness tester, 201
pyramid on penetrascope, 141
Indian
birefirngence, 33
luminescence, 33
mining methods, 34
structure, 33
ultraviolet transmission, 33
industrial, 33
abrasive
lapping, 12
polishing, 12
bridge building, 299
new applications, 157
products
cutting, 252
grinding, 252
inherent quality, 114
irradiation effects produced with
fast neutrons, 64
high energy electrons, 64
kinetics of oxygen reaction, 10
lapping tungsten carbide tipped tool with hand laps, 139
luminescence one of the indicators of degree of perfection of crystals, 64
manufacture
composite back-up rolls, 141
tungsten carbide dies, 127
matrix cutting discs for grooving ferrite plates, 278
maximum purity, 114
melting point, 39
milling machine, 75, 171
automatic for decorating jewellery, 182
natural
locating points on gauging equipment, 127
metal bonded impregnated cut wheel, 179
selected for tungsten carbide die components
hand finishing, 127
lapping, 127
machine grinding, 127
non-, abrasive finishing tools, 15
optical absorption, 64
particles
bonded to the cutting edge of spring steel blades for cutting fibreglass, 28, 29
chemical carrier
coolant, 13
increasing cutting power, 15
lubricant, 13, 15
distribution, 12
hardness, 88
lapping compounds, 13
over-sized, 12
permanent suspension, 12, 13
precision grinding of ferrites, 72
scientific sizing, 13
paste, 128
finishing wind tunnel models, 133
aluminium, 133
lapping
gauges, 232
test specimens, 232
tungsten carbide tools, 75
polishing
electrode surfaces, mechanical, 88
plastics, 219
pencil grinder, 211, 212, 214
photoconductivity, 64
physics, 64
points
natural for engraving patterns on gold watch
cases, 75
links, 75
polished used on glass engraving machine, 49
rebounding of the surface as hardness measuring of rolls, 141
polishing watch cases, 206
powder, 144, 175
agate products
finish grinding with an impregnated copper wheel, 110
lapping, 110
fine, 146
lapping to correct out-of-roundness of tungsten carbide, 40
setting, 146, 148
working of sapphire, 110
precision tooling in watch making, 113, 114, 115, 116, 117
probes, 22
electroplated, 21
hollow for drilling procedure, 22
ultrasonic drilling of ceramics, 24
vibrating, 20
profiling devices for shaping grinding wheels, 141
properties
electrical, 64
electronic, 64
mechanical, development, 188
optical, 64
investigation, 185
thermal, investigation, 185
prospecting, 98, 99, 100
radiation damage effects, 64
recovery, Indian methods, 34
research, 185
riffler, 211
rollers,
dressing, 303, 304
profile truing device, 211
profiling, 303
rough
qualities, 114
rough cutting, 115
round nose, 308
sale, Indian methods, 34
sampling programme, Indian, 35
saws, 285, 286, 287
abrasiveness of concrete, 159
aggregate, 159
bladed
double, 287
multi-circular, 287
single, 287
blades
cutting marble, 312
impregnated, 268, 269, 287
sawing of concrete, 266
segmented, 198
specifications, 235
tipped, 287
cutting

action, free, 28
concrete, 8
limestone, 145
machine, 154
hardness
concrete, 159
aggregate, 159
metal-bonded for sawing glass, 70
removing concrete, 235
floor, 237
sawing
concrete
joints, 158, 159
transverse contractions, 266, 268
runway, 197, 198
machine for marble, 45
slicing hard materials, 49
sawing, 300
equipment, 198
flagstone production, 220
sawing speed, 198
field, 221
joints
contraction, 282
expansion, 282
longitudinal, 159, 284
wide, 9
metal bonded natural segmented blades, 220
minimizing random cracking in concrete joints, 159
slots in granite kerbs, 244
stone industry, 172
ultra-thin silicon wafers, 269
-sawn inserts of Botticino marble on curved precast concrete panels, 44, 45
scintillation counting, 64
sea floor underwater
dredging, 120
drilling, 120
segments, metal bonded cutting edge, 9
selection by
quality, 246
shape, 246
size, 246
setting
pattern in diamond drill crowns, 247
shanks by hot-pressing, 92
shape, 114
shoes on honing machines for internal bores, 11
single-point for dressing corundum wheel, 307
stained, 33
stippled glassware, 164, 167
stippling, 164
structure, 117
crystal, 64
stylus, 2, 4, 110, 219, 237
geometry, 4
grinding on a pointing machine using a metal bonded diamond impregnated wheel, 112
selected splints, 112
slicing for transistor
germanium, 112
silicon, 112
size, 4
surface finish
measurements, 170
testing, 298
tipped to resist
abrasion, 170
wear, 170
synthesis, controlled, 234
synthetic
equipment, for manufacturing, 157
process for manufacturing, 157
tetrakis-hexahedra form, 33
tool
angle
clearance, 115
rake, 115
cutting
edge, 115
efficiency, 116
turning resins, 65
developments, 302, 303, 304
dressing
centre hole grinder, 264
convex radius on a large grinding wheel, 56, 59
economy in use, 200
factory, 225
finishing a copper coated photogravure printing cylinder, 53
industrial business, 236
lathe, 303
polishing, 115
profile, 116
research in manufacture, 225
shape, 116
tipped mounted on radiusing fixture, 254
turning for convex lens curvatures, 257
tooling
cuts cost in stone industry, 172
revolutionises ancient craft, 74, 75
tools, 144
abrasive wear, 148
accuracy, 46
aircraft industry, 132, 133, 134, 135
bonded
aplications of sintered metal, 148
rough shaping of limestone, 84
sawing limestone, 84
building wind tunnels, 133
burnishing pens, 311
cost, 229
cutting
great strength, 68
high surface finish when machining plastics, 68
manufacture, 117
multiple edges, 116
natural stone, 84
depth controlled cuts, 75
dimensional tolerance on hardened forged steel rolls, 139
dressing
abrasive wheels, 216
production, 225
electrometallic, 144
drilling fixing holes, 172
fibreglass
drilling, 27, 28
reinforced plastics
edge routing of all forms, 27, 29
surface planing, 27
thicknessing, 27
trepanning holes, 28
routing, 27
sawing, 27
trimming, 27
finishing aluminium copying drums, 298
fundamental rules for use, 116
grinding small holes running through die, 219
impregnated
natural for Amersil quartz
cutting, 233
finishing, 233
limestone
rough shaping, 84
sawing, 84
industrial, searching for petroleum sources, 118
lathe, 76, 254
manufacture, 226, 227
machines, specially designed, 116
machining, 38
contact lens blanks, 257
glassfibre reinforced plastics,
advantages, 27
high cutting speed, 27
increasing production capacity, 27
photogravure printing cylinderrs, 52, 53
plastics for electrical potentiometers with single natural, 57
silica liners in hypersonic wind-tunnel, 133
manufacturing equipment, 225
measuring stress underground, 50
polished
boring, 144
natural, 227
turning, 144
precision finishing, 229, 230, 231, 232
producing, 157
glass, 305, 306, 307
high precision models of wind-tunnels, 133
tapered roller bearings, 190, 191
trimming grab, 261
Waffle-Iron magnetc thin film memory store, 276, 277, 278
quarrying marble slabs, 251
shaped, 303
radius forming of grinding wheels for thread grinding, 141
shaping natural stone, 83, 84
sharpening worn, 115
single, 303
surface finishing hardened forge steel rolls, 139
-tipped
boring, 217
contact lens lathe, 254
truing, production, 225
turning
fine
acrylic plastic, 68
nylon, 68
plastics, surface finish, 65, 66, 67, 68
polyvinyl chloride, 68
thermoplastics, 65
gold watch cases with facetted natural, 74
tracelets for ruling line standards, 170
truing attachment
grinding wheel, 128
micrometer swing-up, 289
turning
knife, 308
lathes, 308
TV lens mounts, 308
tool for concave lens curvature, 257
usage, industrial, 131
weight, 114
wheel
cup for grinding tungsten carbide, 40, 41
cylindrical grinding of sintered tungsten carbide bar, 219
drag, 91
dresser, 303
multi-point, 144
off-hand grinders, 77
single, 144
dressing
attachment, 289
automatic, 228
built-in template truing devices, 227
concave edges with corundum wheel, 307
forming, 190
impregnated metal bonded for lapping hand tools, 133
lens rounding machine, 310
metal bonded on electrolytic carbide tool grinding machine, 142
peripheral type, 142
particle size, 39
rough
grinding marble, 312
hogging cut of glassfibre reinforced plastic, 27
truer, automatic, 265
truing fixture, 101
vibration-free spindle for mounting, 80
wheels, 144
bonded,
metal, 225
grinding ferrite cup centre post, 72
impregnated, 144
lapping lathe tools, 133
pencil edging, 70
resin, 143, 225
impregnated, 144
coated for trimming leather soles, 43
cost, 82
cup for chamfering of glass, 70
cutting
ceramics, 238
glass, 238
inside, 238
quartz, 238
sapphire, 238
dressed grinding, 141
machining wind-tunnel models, 133
surface grinding of hard boron steel nuclear reactor control rods, 141

electrolytically plated, 144
grinding
carbide plated tool steels, 275
centreless of carbide cylinders, 40
glass, 146
impregnated for resharpening tungsten carbide tipped tools, 139
peripheral of tungsten carbide, 40
pressed powdered ferrite cups, 72
production of tungsten carbide, 40
sharpening tungsten carbide tipped
drills, 231
milling cutters, 231
tools
boring, 141, 231
turning, 229, 231
tools, 216
impregnated
cutting fused silica, 133
flat grinding of vacuum chucking equipment, 142
knife sharpening machine, 265
natural for grinding tungsten carbide throwaway lathe tools, 177
polishing saw tips, 81
slicing
germanium, 238
glass tubing, 238
silicon, 238
white, 33
windows, use, 185
Yakutian, 249
yellow, 33
Dice finishing with diamonds, 128
Dielectric constant of diamond, 64
Die
diamond
drawing, 279
ultra-fine copper wire, 76
drilling on semi-automatic machine, 56
inserts made with small diamond impregnated grinding points, 219
small holes ground with diamond impregnated tools, 219
tungsten carbide
components using selected natural diamond
hand finishing, 127
lapping, 127
machine grinding, 127
lapping with laps
brass, 16
steel, 16
manufacture
diamond, 127
controlled grit size, 127
Difficult strata in wireline core drilling, 153
Diffusion of carbon, 10
Digging methods, 99
Dimensional
engineering metrology, 170
tolerance on hardened steel rolls with diamond tools, 139
Dimensions of grinding wheels, 18
segments, 18
Disc
diamond
edged saw
cutting rough stone into slabs, 145
trimming facing slabs to size, 145
electrometallic used on automatic quartz cutting machine, 144
impregnated for electrolytic grinding machine, 143
rotating abrasive
flexible, 11
rigid, 11
Discharge tube, xenon
helical, 187
linear, 187
Discoveries of diamond, history, 170
Dislocation of graphite studied in electron microscope, 10
Dispenser for diamond compound
controlled for lapping, 15
sealed syringe-type, 15
Display, concrete cutting, 282, 283, 284
Distribution
atmospheric dust measured with laser equipment, 186
blasting charge, 262
diamond particles, 12
pattern of diamond grit, size, 192
Domestic cookers with dial plates of glass
enamelled, 69
hardened, 69
Doors, glass
diamond drilling, 70
enamelled, 69
hardened, 69
Double
barrel diamond drill, 48
bladed diamond saw, 287
Drag of diamond wheel, 91
Drawing with diamond die, 279
ultra-fine copper wire, 76
Dredging underwater for diamonds on sea floor, 120
Dressed diamond
grinding wheels, 141
machining wind tunnel models, 133
surface grinding of hard boron steel nuclear reactor control rods, 141
wheels for grinding
idler gear sleeve, 47
piston connecting rods, 46
Dresser
diamond, 288, 289
automatic on internal crankshaft primary gear grinder, 47
impregnated, 200, 201
no resetting, 180
point
chisel, 133
single, 231
protection from grinding dust, 119
wheel, 303
abrasive, 146
multi-point, 144
off-hand grinders, 77
single, 144
trapezoidal form for automatic wheel dressing, 288
single point, 200
Dressing
diamond
crank grinder, 47
equipment, 217
multiple natural unit on single spindle, 77
roller, 303, 304
tools
abrasive wheels, 216
centre hole grinder, 264
convex radius on a large grinding wheel, 58, 59
production, 225
salvaging diamond grit, 175
single point
manufacturing, 92
re-setting, 92
wheel, 19
attachment, 289
automatic, 228
built-in template truing device, 227
concave edged with corundum wheel, 307
grinding, 190
radiusing, 176
radial of a grinding wheel, 101, 102
wheel
automatic with trapezoidal form diamond dresser, 288
corundum with single-point diamond, 307
elimination, 70
Drill
concrete, 294
core anchors, 264
crown
diameter selection, 246
diamond
placing method, 246
set, 239, 241
diamond
bits, 225
quality, 274
core, 282, 311
coated, 103
cooling with driller's mud, 118
pressure loss, 210
probing
coalfields, 241, 242, 243
strata below dam site, 168
sampling with portable vertical, 215
thin-walled water-cooled, 70
cores cut from concrete test strip, 215
coring, impregnated for core drilling of concrete, 284
crown
concavo-convex profile, 247
cracking, 246
cylindrical core breaker with conical part, 247
design, 247
drilling qualities of diamond, 247
manufacture, 247, 249
pattern of fluid grooves, 246
penetration rate, 250
rhombododecahedrons in wear resistant, 249
semi-circular face profile, 247
setting pattern of diamond, 247
smooth facetted octahedron, 249
tests, 246
trapezoidal thread, 247
cutting action, 243
dental, 303
double barrel, 48
drilling
granite foundations, 96
hole in fibreglass reinforced plastic, 28
restoring church tower, 273
electrolytically plated, 144
glass, 303
holes
cementing, 301
deflecting, 301
portable, for drilling
blast hole, 126
concrete, 126
exploratory, 126
masonry, 126
restoring church tower, 270, 271, 272, 273, 274
vibration during boring holes in masonry, 273
grinder, 289
laboratory with air jet flushing cuttings away, 118
percussion for ascertaining depth of overburden, 98
tungsten carbide tipped sharpened with diamond grinding wheels, 231
rig towers, 241
tool efficiency, 129
Driller's mud for cooling diamond core drill, 118
Drilling
concrete
floor, 311
machine, 294
reinforced, 311
core
concrete with diamond impregnatec
coring drill, 284
wireline, 150, 151, 152, 153
difficult strata, 153
pump design, 153
water
circulating system, 151
pump, 151
crowns set with smaller diamonds, 249
deep
depths, 63
well industry, 61
diamond
air cooling, 274
bit
holes for brass measuring plugs, 50
impregnated, 71
concrete
pre-stressed, 123, 124, 125
reinforced, 123
core
exploratory, 241, 243
hard, 295, 296, 297
care of surface finish, 297
drilling, 297
flawed particles
removal, 295
rounding, 295
laboratory tests, 297
performance, 295
polishing surface, 295

proper use, 297
selection by shape, 295
high spindle speeds, 61
culverts
bleed-off holes in concrete, 137
overcoming detergent foaming in sewer, 136, 137
damage, 124
dies, semi-automatic machine, 56
drill
granite foundations, 96
hole in fibreglass reinforced plastic, 28
restoring church tower, 273
equipment, 246
field tests, 250
glass, 307
doors, 70
granite in dam construction, 168
modifications in buildings, 123
portable drill
blast hole, 126
concrete, 126
exploratory, 126
masonry, 126
rigs
flexible, 96
simplifying plumbing jobs, 104
special for sample cores, 18
routing pipes, 125
speed, 96
techniques, 246
tools
fibreglass, 27, 28
fixing holes, 172
using water coolant to avoid producing dust, 123
weep holes, 124
wells
gas, 246, 247, 248, 249, 250
oil, 246, 247, 248, 249, 250
fine of ultra-hard materials, 54, 55, 56
diamond abrasive suspended in oil, 54
machines, 54
high production speed, 54
repeatability, 54
hard core drilling diamonds, 297
machine
glazed tiling, 265
micro, 49
platform, 124
pressure, 63
high contact, 61
procedure using hollow diamond probe, 22
qualities of diamond in diamond drill crowns, 247
roller bit
spindle speeds, 61
'wildcat' wells, 61
rotary
combination method, 63
hydraulic rig, 63
light formations of rock, 60, 61, 62, 63
machine, 63
techniques for samples of uranium
carbides, 24
oxide, 24
ultrasonic of ceramics, 20, 21, 22, 23, 24
diamond probes, 24
penetration rate, 24
speed, 24
underwater for diamonds on sea floor, 120
watch jewels, 54
Drums, aluminium copying, 298
finishing with diamond tools, 298
rough finishing with carbide tools, 298
Drying of concrete, 163
Durability of grinding wheel determinded by type of bond, 39
Dust
collector, semi-automatic, 181
diamond segmental blades, 309
distribution, laser equipment for measuring atmospheric, 186
grinding
built-up overcome by flushing stream of water over grinding wheel and equipment, 59
efficient extractors, 119
protecting diamond dresser, 119
produced by diamond cutting of fibreglass reinforced plastic, 29
using water coolant in diamond drilling avoids, 123
E
Earth-moving equipment, heavy, 98
Economical use of diamond, 40
Economics
machining, 33
using industrial diamonds for cutting
marble, 172
stone, 172
Economy of diamond tool use, 200
Edge
crystal in graphite single crystals, 10
cutting
cutting fibreglass with spring steel blades with diamond particles bonded to, 28, 29
diamond
metal-bonded segments, 9
tool, 115
multiple, 116
grinding of lenses with diamond abrasive, 108
routing all forms of fibreglass reinforced plastic with diamond tools, 27, 29
Edged, diamond
disc saw
cutting rough stone into slabs, 145
trimming facing slabs to size, 145
wheel, concave dressed with corundum wheel, 307
Edges
convexing ground with diamond grinding wheels, 305
knife sharpening, 16
diamond compound
agate of beam balances, 16
shearing, 16
Edging
glass with metal bonded diamond grinding wheels, 69
lens, 106
contact, 257
diamond grinding wheels
impregnated of high precision, 105
metal bonded, 106
pencil, 70
Effects
irradiation produced on diamonds
fast neutrons, 64
high energy electrons, 64
radiation damage in diamonds, 64
surface
electrode, 86
vacuum, 89
Efficiency
cutting
diamond impregnated probes, 21
grinding wheel determined by type of bond, 39
diamond
cutting tool, 116
EMB grit maximum of particles, 224
drill tool, 129
grinding
diamond impregnated probes, 21
optimum, 22
Efficient extractors of diamond dust, 119
Electric, thermo- power of graphite, 10
Electrical
circuits printed on fibreglass sheets for electronic computers, 27
conductivity in diamond, 64
generators, 262
insulation studies surface preparing of electrodes, 85, 86, 87, 88, 89
machining methods research, 208
oil as insulator, 85
potentiometers, machining plastics for with single-point natural diamond tools, 57
properties of diamond, 64
resistance gauges for measuring stresses, 168
Electrode surface
effects, 86
polishing, 88
electrolytic, 86
finish with diamond compound, 88
mechanical with diamond paste, 88
preparing for electrical insulation studies, 85, 86, 87, 88, 89
smoothness, 88
Electroluminescence of diamond, 64
Electrolytic
grinding, 302
machine
diamond impregnated grinding disc, 143
tool, 104
carbide with metal bonded diamond wheel, 142
peripheral type, 142
milling cutters, 303
throw-away tips, 303
polishing of electrode surfaces, 88
Electrolytically
plated diamond
drills, 144
wheels, 144
polished surface microgeometry, 88
Electrometallic diamond
disc, used on automatic quartz cutting machine, 144
tools, 144
Electron
microscope for the study in graphite
dislocations, 10
imperfections, 10
tube apparatus, 85
Electrons, high energy producing irradiation effects on diamond, 64
Electronic
computers, electrical circuits printed on fibreglass sheets, 27
industry, granite plates, 199
optical comparator for gauging fine wire diameters, 279
parts, miniature micro-welded with laser, 187
properties
carbon, 10
covalently-bonded crystalline solids, 64
diamond, 64
transport of graphite, 10
Electronics
ceramics for microwave, 262
use of sapphire, 110
Electroplated diamond probes, 21
Elementary chemistry for determination of a mineral, 170
Elements, 64
chemical, 64
silicon carbide radiation absorbing, 262
Elimination of wheel dressing, 70
Eluvial diamond deposits in India, 30
EMB
crushing procedure, 224
diamond
grit
Engineered Metal Bond, 192, 193, 194, 195, 196, 221, 222, 223, 224
impact strength, 192, 193
test, 196
maximum
blockiness, 192
efficiency of particles, 224
testing, 192, 193, 194, 195, 196, 221, 222, 223, 224
particle
shape, 224
size, 193
performance, 192, 221
process, 193, 195, 196
'pull-outs', 224
rotary impact crushers, 193
sawing
glazed tile, 223
marble, 223
refractories, 223
shape, 192
size range, 221
natural, 192, 193, 194, 195, 196
Emery powder for removal of generation marks on lenses from roughing, 106
Emission properties of defects in diamond, 64
Emulsion type grinding coolant, 70
Enamelled glass
dial plates
domestic cookers, 69
radius, 69
washing machines, 69
doors, 69
glass boards, 69
motor car windows, 69
walls, 69
Enamelling glass process, 71

End
gauges of tungsten carbide for measuring rollers diamond ground, 176
surfaces of ruby rods ground, 186
Energy
diamond
gap, 64
level, 64
electrons, irradiation effects produced on diamonds with high, 64
Engineered Metal Bond diamond grit EMB, 192, 193, 194, 195, 196, 221, 222 223, 224
Engineering
applications of diamond grit, 192
dimensional metrology, 170
heavy, fine finishing, 138, 139, 140, 141
mechanical, design, 234
production, research, 208, 209
solids, physics, 97
Engraved glass, diamond, 164, 167
Engraving
copper plate, 2
diamond
glass
machine using polished points, 49
metal bonded grinding wheels, 307
revival, 167
grit with copper wheels for glass, 164, 167
natural points for patterns on gold watch
cases, 75
links, 75
pencil, 164, 167
head, 2
machine, 263
printing blocks, 2
stylus, ruby, 112
wheel, 164
Envelopes
alumina, 262
high density ceramic for vacuum tubes gound with diamond grinding wheels bonded
metal, 36, 37
vitrified, 36, 37
power tubes for high power systems in betatron atomic particle accelerators outside diameters ground with metal bonded diamond grit wheels.
klystron, 37
magnetron, 37
Equipment
concrete
joinnt sawing, 266
surface laying, 266
diamond
dressing, 217
drilling, 246
manufacturing
synthetic, 157
tools, 225
sawing, 198
flagstone production, 220
sawing speed, 198
gauging with natural diamonds for locating points, 127
heavy
earth-moving, 98
media for gravel samples
sorting, 120
screening, 120
laser
measuring atmospheric dust distribution, 186
tracking satellites, 186. 187
mining for re-processing of tailings, installation, 25
overcoming grinding dust build-up, 59
photographic, lenses for highly specialised, 109
processing for gravel samples
screening, 120
sorting, 120
vacuum chucking
flat grinding with diamond impregnated wheels, 142
holding
carbide, 142
ceramics, 142
ferrites, 142
glass, 142
Equipped, machine with two diamond saws for sawing marble, 45
Etching, fine, 4
Ethermeth as cleansing material for laps, 15
Evaluation
diamond deposits in India, 35
surface finish, 208
Excavating methods, 99
Expanding
bolt, 301
cast iron laps with helical slot used with diamond compound, 16
holder, 310
Expansion
joints
diamond sawing, 282
transverse cut with diamond impregnated saw blades, 159
thermal of sintered metals, 146
Experiments, hardness measurements laboratory, 260
Exploration, microhardness of sintered metal matrix, 148
Exploratory drilling
diamond core, 241, 243
portable diamond drill, 126
Explosives, benching with ammonium nitrate, 262
Extraction, 64
methods in quarries, 285
Extractors of grinding dust, efficient, 119

F
Facade, stone cutting with diamond, 207
airport tower, 145
Face
changing of a town centre, 83, 84
curvature of diamond, 33
semi-circular profile of diamond core drill crown, 247
silica blocks, step-cutting rough shape on top, 135
Facetted diamond
natural tools for turning gold watch cases, 74
smooth octahedron in drill crown, 249
Facing slabs trimmed to size with diamond edged disc saw, 145
Factors in dam design, geological, 168
Factory for diamond tools, 225
Failure of gears, analysis of types, 97
Fast
coring process in concrete pavement, 160,161
cutting diamond grinding wheel, 80
neutrons producing irradiation effects on diamonds, 64
Feed, 65
rate
controlled, 22
diamond impregnated probes, 21
unit, controlled hydraulic, 22
Feet of lathe bed milled, 227
Felt laps, 17
shoes, 16
Female hemisphere ground with diamond impregnated bronze annular wheel, 281
Ferrite
cup
centre post ground with metal bonded diamond wheels, 72
pressed powdered ground with diamond wheels, 72
reaming centre holes, 72
grinding
automatic machines, 72, 73
pecision with diamond particles, 72
plate, 277
grooving
cutting-off machines, 278
diamond matrix cutting discs, 278
tiny ring cores, Microtoroids, 276
vacuum chucking equipment for holding, 142
Ferrous metals
non-, rolling with forged steel rolls
cold, 139
hot, 139
rolling with forged steel rolls
cold, 139
hot, 139
Fibre laps, 17
Fibres of silica, gauging, 279
Fibreglass
diamond
particles bonded to cutting edge of spring steel blades for cutting, 28, 29
tools
drilling, 27
routing, 27
sawing, 27
trimming, 27
reinforced plastic with diamond
cutting
impregnated saw, 28
producing dust, 29
drill drilling hole, 28
tools
edge routing all forms, 27, 29
surface planing, 27
thicknessing, 27
trepanning hole, 28
sheets for electronic computers with electrical circuits printed on them, 27
Fidelity record reproduction, high, 216, 217, 218, 219
Field, diamond
drilling tests, 250
sawing, 221
Fields, modern methods of mining in Indian diamond, 25
File, diamond, 211
impregnated, 303
Film
cine- sliced with sapphire stylus, 112
Waffle-Iron magnetic thin memory store produced with diamond tools, 276, 277, 278
Filter
fine boring of ultra-hard materials, 54
grinding coolant, 92
Final polishing of lenses with zirconium oxide powder, 106
Fine
boring of ultra-hard materials
filters, 54
injection nozzles, 54
spinnerets, 54
diamond powders, 146
drilling ultra-hard materials, 54, 55, 56
diamond abrasive compound suspended in oil, 54
machines, 54
high production speed, 54
repeatability, 54
etching, 4
finishing in heavy engineering, 138, 139, 140, 141
turning
plastics, 65
tools
diamond
acrylic plastic, 68
nylon, 68
plastics surface finish, 65, 66, 67, 68
polyvinyl chloride, 68
thermo-plastics, 65
hard alloy cutting of thermo-plastics, 65
ulta- copper wire drawn with diamond dies, 76
wire diameters gauged with optical/electronic comparator, 279
Fines of diamond grit generated, quantity, 192
Finish
burnished of spindles, 217
grinding
agate products with a copper wheel impregnated with diamond powder, 110
lathe bed, 227
honing with diamond impregnated hones, 291
mirror by polishing tip of stylus, 112
polishing of electrode surfaces with diamond compound, 88
finish, 208
bearings, 216
sintered bronze interior surfaces, 217
evaluation, 208
fine turning of plastics with diamond tools, 65, 66, 67, 68
hard core drilling diamonds, care, 297
hardened forge steel rolls with diamond tools, 139

high
lapping, 281
machining plastics with diamond tools, 68
measurements, 170, 208
diamond styli, 170
quality
depending on nose radius of cutting tool tip, 68
increase affected by heat formed by friction at high cutting speed, 68
testing with diamond stylus, 298
Finishes, high precision micro-inch, 12
Finishing
aluminium copying drums
diamond, tools, 298
rough with carbide tools, 298
Amersil quarts with impregnated
natural diamond tools, 233
carbide-plated tool steels with diamond lapping compounds, 275
components
small batches on cast iron lapping wheels with diamond compound, 15
tungsten carbide die with selected natural diamonds for hand, 127
compound, copper laps with medium, 16
concrete, machine, 266
copper-coated photogravure printing cylinder with diamond tool, 53
diamond
dice, 128
gold watch cases, 74
pastes for wind tunnel models, 133
aluminium, 133
fine in heavy engineering, 138, 139, 140, 141
gear, 97
machine tools, 97
mirror of bearing surfaces, 216
precision with diamond tools, 229, 230, 231, 232
tools, non-diamond abrasive, 15
Firebrick, saw for wet cutting, 129
First ruby laser, 187
Five diamond cluster tips for truing of grinding wheels, 103
Fixing holes drilled with diamond tools, 172
Fixture
centreless grinding, 143
diamond
tipped tool mounted on radiusing, 254
wheel truing, 101
holder, 102
Fizeau interferometer, 189
Flagstone production, diamond sawing equipment, 220
Flat
base ground on silica blocks, 135
grinding of vacuum chucking equipment with diamond impregnated wheels, 142
lapping machines, automatic, 12
Flatness gauging with inteferometer, 288
Flawed particles of hard core drilling diamonds
removal, 295
rounding, 295
Flexible
diamond drilling rigs, 96
masonry, saw, 310
rotating abrasive discs, 11
Flint aggregate in concrete, 8
Floor
concrete
drilling, 311
removed with diamond saws, 235
sawing sections, 126
coverings
underwater abrasion test, 205
wear testing of synthetic with diamond-head apparatus, 204, 205
materials tested with step-imitating machine, 205
sea diamonds, underwater
dredging, 120
drilling, 120
Flow line principles in lathe buildings, 226
Fluid
cutting, 38
grinding using kerosene for wet grinding of tungsten carbide cutting tools with metal bonded diamond grinding wheel, 67
grooves in diamond drill crown, pattern, 246
lubricating used with diamond compound, 17
Fluorescence in diamond caused by nitrogen, 64
Fluoride, calcium with samarium, 186
Flusing
cuttings away from laboratory drill by air jet, 118
stream of water over grinding wheel and equipment to overcome grinding dust build-up, 59
Flute grinding machine for taps, automatic, 289
Fluted tool, 117
Flutter, 216
Foaming of detergent overcome by diamond drilling of sewer culverts, 136. 137
Foils, diamond hardness testing machine, 143
Followers, diamond fitted on lathe, 176
Force in shock absorbers, damping, 202
Forged steel rolls
hardened with diamond tools
dimensional tolerance, 139
surface finish, 139
hardness, diamond pyramid, 139
rolling
cold
metals
ferrous, 139
non-ferrous, 139
paper, 139
plastics, 139
rubber, 139
hot
metals,
ferrous, 139
non-ferrous, 139
tungsten carbide tipped tools
milling, 139
turning, 139
Form
diamond
dresser for automatic wheel dressing, trapezoidal, 288
hexakis-octahedral, 33
tetrakis-hexahedra, 33
glass master standards, 106
grinding of gears, 97
portable grinder with air cushion, 92
slip
paver, 282, 284
process, 282
Formations, light
roller bits penetrate in one operation, 51
rotary drilling through rock, 60, 61, 62, 63
Formed
diamond for grinding wheel, 289
gold watch case on press, 74
heat by friction at high cutting speed affecting
cutting ability of tool, 68
increased quality of surface finish, 68
smoothness of cutting action, 68
Forming
device
crush, 211
peripheral wheel, 226
diamond tools for wheel, 219
grinding wheels for thread grinding shaped with diamond tools for radius, 141
joint with a T-bar, 160
multi-ribbed wheel, 288
Forms of fibreglass reinforced plastic with diamond tolls for edge routing, 27, 29
Foundation movement measurement, inverted pendulum, 168
Foundations
granite drilled with diamond drill, 96
subsoil consistency in dam, 168
Four
-cycle grinding technique multiplying saw blade life, 79, 80, 81, 82
diamond blades on automatic span saw, 9
Fragile piezoelectric ceramics ground with diamond, 129
Frame saw, 287
fitted with diamond impregnated saw blades for cutting stone slabs, 84
Free
cutting
action of diamond saws, 28
diamond grinding wheel, 80
vibration- spindle for mounting diamond wheel, 80
Friatest, 193
Friction
carbon, 10
heat formed at high cutting speed affecting
cutting ability of tool, 68
increased quality of surface finish, 68
smoothness of cutting action, 68
Front dial plates, manufacture, 71
Fundamental rules for use of diamond tools, 116
Fundamentals of plasticity, 206
Funnels for separation, 289
Fused
quarts highly abrasive, 233
silica cut with diamond impregnated wheels, 133

G
Gap of energy in diamond, 64
Garnet, 170
Gas
analysis, 64
lasers, 189
wells diamond drilled, 246, 247, 248, 249, 250
Gauges
diamond paste for lapping, 232
electrical resistance for measurements of stresses, 168
screw, 237
tungsten carbide end for measuring rollers, diamond ground, 176
Gauging
automatic
machines, 293
workpiece, 228
cones
precision ball wear problem, 173, 174, 175, 176
tungsten carbide diamond ground, 173
equipment with natural diamonds for locating points, 127
fine wire diameters with optical/electronic comparator, 279
flatness with interferometer, 288
silica fibres, 279
Gears
basic geometry, 97
design, 97
failure, analysis of types, 97
finishing, 97
grinder with automatic diamond dresser for internal crankshaft primary, 47
grinding, 97
automatic line, 46
form, 97
generating, 97
lay, 46
honing, 97
inspection, 97
lapping, 97
machine tools
cutting, 97
finishing, 97
manufacture, 97
nomenclature, 96
shaving, 97
automatic line, 46
sleeve, idler ground with diamond dressed wheel, 47
testing, 97
theory, 97
thread-grinding, 97
types, 97
ubiquitous, 97
wheels, hardness measurements for case-hardened, 259

General use of diamond compounds, 17
Generated diamond grit fines, quantity, 192
Generating-grinding of gears, 97
Generation
heat of grinding wheel determined by type of bond, 39
lenses, diamond abrasive for curve, 108
marks on lenses removed from the roughing with emery powder, 106
Generator
angle, 154
curving lens blanks with diamond impregnated spherical, 106
electrical, 262
radius, 154
Geochemical considerations, 64
Geochemistry, 64
Geological
considerations, 64
factors in dam design, 168
Geology of diamond deposits in India, 30
Geometry
basic of gears, 97
cutting tool, 65, 68
diamond stylus, 4
Germanium slicing with diamond
stylus for transistors, 112
wheels, 238
Glass
boards from glass
enamelled, 69
hardened, 69
borosilicate, 281
cutting with single point diamond glass cutter, 69
decorators in Holland, 164, 165, 166, 167
diamond
cutter, single point for cutting glass, 69
cutting thin, 305
drill, 303
drilling, 307
doors, 70
engraved, 164, 167
engraving revival, 167
grinding, 305
impregnated bits for drilling, 71
saws, metal bonded for sawing, 70
tools for producing, 305, 306, 307
wheels
cup for chamfering, 70
cutting, 238
grinding, 146
grinding sheet, 305
metal bonded
edging, 69
engraving, 307
stippling, 307
slicing tubing, 238
enamelled
dial plates
domestic cookers, 69
radios, 69
washing machines, 69
doors, 69
glass boards, 69
motor car windows, 69
walls, 69
enamelling process, 71
engraving
diamond grit with copper wheels, 164, 167
machine using polished diamond points, 49
form master standards, 106
haptic contact lenses, 254
hardened
dial plates
domestic cookers, 69
radios, 69
washing machines, 69
doors, 69
glass boards, 69
motor car windows, 69
walls, 69
holding with vacuum chucking equipment, 142
Neodymium, 186
pulsed device, 189
plate, 305
grinding on diamond grinding machines, 69
production problems, 69, 70, 71
saw for wet cutting, 129
slotting, 70
Glasses
machining special with diamond coated tools, 90
watch, 113
Glassfibre reinforced plastic
diamond
grit as medium
cutting, 27
grinding, 27
wheels for rough hogging cut, 27
machining, 26, 27, 28, 29
diamond tools
advantages, 27
high cutting speed, 27
increasing production capacity, 27
Glassmaking, 305, 306, 307
Glassware
diamond stippled, 164, 167
manufacture of interchangeable, 281
Glazed
tile
cutting machine, 76
sawing with EMB diamond grit, 223
tiling drilling machine, 265
Gold watch
bracelets, 74, 75
cases, 74, 75
diamond finishing, 74
engraving patterns with natural diamond points, 75
press
forming, 74
trimming, 74
turning with a facetted natural diamond tool, 74
links engraving patterns with natural diamond points, 75
Good lustre of diamond, 33
Grab, trimming produced with diamond tools, 261
Grade
diamond compound
lapping, 15
separate lap, 17
high iron ore for steel production, 177
Grading of diamond, 12
Grain
boundaries in graphite single crystals, 10
diamond, 144
Granite
aggregate in concrete, 266
diamond
coated steel saw for sawing, 91
drill for drilling foundations, 96
drilling in dam construction, 168
plates
grinding with natural diamond grinding wheels on automatic surface grinder, 199
industry
aeronautical, 199
atomic, 199
electronic, 199
optical, 199
kerbs sawing
diamond
blades, 244
slots, 244
mobile saw, 244
sawing
low diamond concentration, 244
soft bonded diamond blade, 244
Granular abrasives
machine testing, 149
particle strength, 149
Graphite, 262
band constants, 10
electron microscopy for studying
dislocations, 10
imperfections, 10
nuclear, 10
paramagnetic susceptibility, 10
properties, 10
electronic transport, 10
radiation damage, 10
resistivity, 10
single crystals
blisters, 10
cleavage steps, 10
crystal edge, 10
grain boundaries, 10
oxidation, 10
tempeature, 10
thermo-electric power, 10
Graphitization
carbon, 10
diamond, 10
Gravel samples, equipment
heavy media
screening, 120
sorting, 120
processing
screening, 120
sorting, 120
Gravity
dam, 168
specific of pyrope, 170
Great strength of diamond cutting tools, 68
Green
concrete, 309
diamond, 33
Grey diamond, 33
Grids of alumina for computing systems ground with diamond grit wheel, 37
Grinder
air cushion optical form, 92
centre hole with diamond dressing tool, 264
crank with diamond dressing, 47
diamond
pencil 211, 212, 214
resharpening tungsten carbide tipped
milling cutters, 139
turning tools, 139
drill, 289
electrolytic tool, 104
gear internal crankshaft primary with automatic diamond dressers, 47
high ceiling, 77
multi-head for machining lathe beds, 226
off-hand with diamond wheel dresser, 77
removing surface irregularities from poured concrete ceilings, 77
surface, 211
automatic for grinding granite
plates with natural diamond grinding wheels, 199
Grinding
alumina grids for computing systems with diamond grit wheel, 37
carbide-plated tool steel with diamond wheels, 275
centreless
carbide cylinders with diamond wheels, 40
fixture, 143
hardened tool spindles, 216
convexing edges with diamond grinding wheels, 305
coolant
emulsion type, 70
filter, 92
crankshaft, 231
cylindrical of sintered tungsten bar with diamond wheel, 219
deep of tungsten carbide tool tips with diamond grinding wheel, 177, 178, 179
diamond
glass, 305
impregnated
disc on electrolytic grinding machine, 143
points
mounted in air turbine head, 219
small for making die inserts, 219
industrial products, 252
lenses, 106, 107, 108, 109
stylus on a pointing machine using metal bonded diamond impregnated wheel, 112
tungsten carbide
end gauges for measuring rollers, 176
gauging cones, 173
tipped saws, 80
throwaway lathe tools recommended, 179
dust
build-up overcome by flushing streams of water over grinding wheels and equipment, 59
efficient extractors, 119

protecting diamond dresser, 119
efficiency
diamond impregnated probes, 21
optimum, 22
electrolytic, 302
milling cutters, 303
throw-away tips, 303
ferrite
automatic machines, 72, 73
cup centre post with metal bonded diamond wheels, 72
precision with diamond particles, 72
pressed powdered cups with diamond wheels, 72
finish
agate products with a copper wheel impregnated with diamond powder, 110
lat he bed, 227
flat
base on silica blocks, 135
vacuum chucking equipment with diamond impregnated wheels, 142
fluid for wet grinding of tungsten carbide cutting tools with metal bonded diamond grinding wheel using kerosene, 67
fragile piezoelectric ceramics with diamond, 129
gear, 97
automatic line, 46
form, 97
generating, 97
lay, 46
sleeve of idler with diamond dressed wheel, 47
thread, 97
granite plates with natural diamond grinding wheels on automatic surface grinder, 199
hemisphere with diamond impregnated wheel
female with bronze annular, 281
male with bronze tubular using mist lubrication, 281
high-density alumina ceramic envelopes for vacuum tubes with bonded diamond grinding wheel
metal, 36, 37
vitrified, 36, 37
internal diameter of aluminium cylinders with metal bonded diamond grinding wheel, 37
lenses edges with diamond abrasives, 106
machine
automatic flute for taps, 289
centreless, 200
automatic, 288
Conrod, 144
cutter, 144, 263
cylindrical, 289
electrolytic with diamond
impregnated grinding disc, 143
metal bonded wheel for carbide tools, 142
peripheral type, 142
internal thread, 288
preparing metallographic specimens with abrasives
aluminium oxide, 155
diamond, 155
tool, 144
diamond grinding wheels, 302
medium for glassfibre reinforced plastics, diamond grit, 27
method
Besly, 42
Blanchard, 40, 41
mirrors with diamond grinding wheels, 70
outside diameters on envelopes for power tubes for high power systems in betatron atomic particle accelerators with metal bonded diamond grit wheel
klystron, 37
magnetron, 37
piston connecting rods with diamond dressed wheels, 46
plastics, 65
plate glass on diamond grinding machines, 69
research, 208
roll, 139
rods
ruby
diamond grinding wheel, 189
end surfaces, 186
sapphire, 110
rough of marble with diamond wheel, 312
saw tips with diamond grinding wheel, 81
sheet glass with diamond grinding wheel, 305
small holes running through die with diamond impregnated tools, 219
spherical joints with diamond impregnated wheels, 281
spindle
medium size, 212
running on air bearings, 212, 213, 214
stainless steel air bearings outer sleeves with corundum stones, 214
stopcock with diamond impregnated tools, 280, 281
surface of hard boron steel nuclear reactor control rods with diamond dressed grinding wheels, 141
technique multiplying saw blade life, four-cycle, 79, 80, 81, 82
thread with radius formed grinding wheels with shaped diamond tools, 141
tungsten carbide
cones with diamond grinding wheel, 175
cutting tools wet with metal bonded diamond grinding wheel using kerosene as grinding fluid, 67
diamond wheels
cup, 40, 41
grinding, 39, 40, 41, 42
metal bonded, 42
peripheral, 40
production, 40
die components on machine with selected natural diamond, 127
throwaway lathe tools with natural diamond wheels, 177
use of coolants, 42
wheel
curve
concave, 101
convex, 101
determining by type of bond
cutting efficiency, 39
durability, 39
heat generation, 39
developing bonds for high stock removal, 302
developments, 302
diamond, 289
bevelling mirrors, 70
bonded
metal
glass
edging, 69
engraving, 307
stippling, 307
grinding
high density alumina ceramic envelopes for vacuum tubes, 36, 37
internal diameter of alumina cylinders, 37
tungsten carbide, 42
lens edging, 106
wet grinding of tungsten carbide cutting tools using kerosene as grinding fluid, 67
resin, 7
impregnated, 275
vitrified for grinding high-density alumina ceramic envelopes for vacuum tubes, 36, 37
bonding materials
clean, 80
uniform, 80
cutting
fast, 80
free, 80
dressed, 141
machining wind tunnel models, 133
surface grinding of hard boron steel nuclear reactor control rods, 141
dressing, 190
formed, 289
glass, 146
grinding
convexing edges, 305
deep of tungsten carbide tool tips, 177, 178, 179
machines for tools, 302
mirrors, 70
ruby rods, 189
saw tips, 81
sheet glass, 305
tungsten carbide, 39, 40, 41, 42
cones, 175
halving cost, 7
impregnated, 175
edging high precision lenses, 105
grinding spherical joints, 281
resharpening tungsten carbide tipped tools, 139
long life, 70
maintaining tungsten carbide tipped tools, 201
natural for grinding granite plates on automatic surface grinder, 199
perfect balance, 80
peripheral, 175
profile, 302
shaping with profiling devices, 141
sharpening tungsten carbide
tipped
drills, 231
milling cutters, 231
tools
boring, 141, 231
turning, 229, 231
tools, 216
standardization, 7
tool for dressing a convex radius on large, 58, 59
truing attachment, 128
dimensions, 18
segments, 18
overcoming grinding-dust build-up by flushing stream of water over equipment, 59
profiling attachment, 219
radial dressing, 101, 102
thread grinding radius formed with shaped diamond tools, 141
truing with five diamond cluster tips, 103
Grit
abrasive, 302
diamond, 312
controlled size in the manufacture of tungsten carbide dies, 127
EMB Engineered Metal Bond, 192, 193, 194, 195, 196, 221, 222, 223, 224,
impact strength, 192, 193
test, 196
maximum
blockiness, 192
efficiency of particles, 224
particle
shape, 224
size, 193
performance, 192, 221
process, 193, 195, 196
'pull-outs', 224
rotary impact crusher, 193
sawing
glazed tile, 223
marble, 223
refractories, 223
shape, 192
size range, 221
testing of natural, 192, 193, 194, 195, 196, 221, 222, 223, 224
high concentration in diamond coated tools, 91
medium for glassfibre reinforced plastic
cutting, 27
grinding, 27
plated peripheries for machining silica blocks with wheels, 135
natural, 224
quality, 192
quantity of fines generated, 192
salvaged from worn diamond dressing tools, 175
screening, 195
size distribution pattern, 192
synthetic, 192
wheel
copper for glass engraving, 164, 167
grinding

alumina grids for computing system, 37
outside diamter on envelopes for power tubes for high power systems in betatron atomic particle accelerators with metal bonded
klystron, 37
magnetron, 37
working of sapphire, 110
machine testing
abrasive, 149
aluminium oxide, 149
diamond, 149
silicon carbide, 149
Groove, clean-cut, 9
Grooved with diamond matrix cutting discs of ferrite plates, 278
Grooving ferrite plates on cutting-off machine, 278
Grooves, pattern of fluid in diamond drill crowns, 246
Ground vibrations, 262
Growth of crystals, 234

H
Halving cost of diamond grinding wheels, 7
Hand
finishing of tungsten carbide die components with selected natural diamonds, 127
laps, diamond for lapping tungsten carbide tipped tools, 139
off- grinder with diamond wheel dresser, 77
tools lapped with diamond impregnated metal bonded wheel, 133
Hands, watch, 113
Haptic glass contact lenses, 254
Hard
aggregate, 8
alloy cutting tools for fine turning of thermo-plastic, 65
boron steel nuclear reactor control rods surface ground with diamond dressed grinding wheels, 141
core drilling diamonds, 295, 296, 297
care of surface finish, 297
drilling, 297
flawed particles
removal, 295
rounding, 295
laboratory tests, 297
performance, 295
polishing surface, 295
proper use, 297
selection by shape, 295
materials sliced with diamond saw, 49
metal alloys developed with high pressures, 157
PVC cut with diamond impregnated saw, 28
ultra- materials, fine
boring
filters, 54
injection nozzles, 54
spinnerets, 54
drilling, 54, 55, 56
diamond abrasive suspended in oil, 54
machines, 54
high production speed, 54
repeatability, 54
wearing bond for diamond blade sawing concrete, 244
wood for lap shoes, 16
Hardened
case-
gear-wheels, hardness measurements, 259
steels, hardness testing, 232
glass
dial plates
domestic cookers, 69
radios, 69
washing machines, 69
doors, 69
glass boards, 69
motor car windows, 69
walls, 69
steel
mating of parts, 16
rolls with diamond tools, forged
dimensional tolerance, 139
surface finish, 139
tool spindles, centreless grinding, 216
Hardening process, case-, hardness measurement, 258, 259, 260
Hardness
diamond, 39
measurements, 258
precision, 258
natural for measuring, 127
particles, 88
pyramid of forged steel work rolls, 139
saw of concrete, 159
aggregate, 159
tester, 144
checking hardness of steel parts, 139
foils, 143
small parts, 143
thin materials, 143
measurements, 259
case-hardened
gear-wheels, 259
process, 258, 259, 260
laboratory experiments, 260
tests, 260
measuring of rolls by rebounding diamond point off the surface, 141
sapphire, 110
sintered metal matrix
macro- tests, 148
micro- exploration, 148
steel parts checked on diamond hardness tester, 139
tester
diamond indenter, 201
standard, 155
testing
bronze, 232
case hardened steel, 232
iron, 232
machine visual
Brinell, 142
diamond pyramid, 142
tool steel, 232
Head
air turbine with diamond impregnated grinding points, 219
cylinder, 291
diamond- apparatus for wear testing
leather, 204
synthetic floor coverings, 204, 205
engraving, 2
honing, diamond impregnated, 289
multi- grinders for machining of lathe beds, 226
optic, 2
shape, correct of diamond crown, 246
Heat
formed by friction at high cutting speed affecting cutting ability of tool, 68
increased quality of surface finish, 68
smoothness of cutting action, 68
generation of grinding determined by type of bond, 39
internal of cement, 161
Heating road system, 244
Heavy
earth-moving equipment, 98
engineering, fine finishing, 138, 139, 140, 141
media equipment for gravel samples
screening, 120
sorting, 120
Helical
lap
contraction type for shaft lapping, 16
slot expanding cast iron used with diamond compound, 16
xenon discharge tube, 187
Hemisphere ground with diamond impregnated wheel
female with bronze annular, 281
male with bronze tubular using mist lubrication, 281
Hexahedra form of diamond, tetrakis-, 33
Hexakis-octahedra form of diamond, 33
High
ceiling grinders, 77
concentration of diamond grit in diamond coated tools, 91
cutting speed
diamond tools when machining glassfibre reinforced plastics, 27
heat formed by friction affecting
cutting ability of tool, 68
increased quality of surface finish, 68
smoothness of cutting action, 68
density alumina ceramic envelopes for vacuum tubes ground with diamond grinding wheel, bonded
metal, 36, 37
vitrified, 36, 37
drilling contact pressure, 61
energy electrons producing irradiation effects on diamond, 64
fidelity record production, 216, 217, 218, 219
grade iron ore for steel production, 177
power systems in betatron atomic particle accelerators grinding outside diameters on envelopes for power tubes with metal bonded diamond grit wheel
klystron, 37
magnetron, 37
precision
lenses edged with diamond impregnated grinding wheels, 105
micro-inch finishes, 12
models of wind tunnels produced with diamond tools, 133
pressures
developing hard metal alloys, 157
physics, 38
research, 94
resistance of diamonds, 12
ultra, 93, 94, 95
speed
machine
fine drilling of ultra hard materials
production, 54
honing, 181
spindle for diamond core drilling, 61
steel tools, (HSS), 38
stock removal
cast iron lap, 16
developing bonds of grinding wheels, 302
surface finish,
lapping, 281
machining plastics with diamond tools, 68
temperatures of sapphire, insulating properties, 110
Highly
abrasive fused quartz, 233
specialised photographic equipment, lenses, 109
Highways, sawing joints, 8, 9
History of diamond discoveries, 170
Hogging cut of glass fibre reinforced plastic, rough with diamond wheels, 27
Holder
diamond, 289
mounting, 115
wheel truing fixture, 102
expanding, 301
Holding
attachment for work, 75
vacuum
chuck for lens blanks in position, 106
chucking equipment
carbide, 142
ceramics, 142
ferrites, 142
glass, 142
Hole
blast-drilling with portable diamond drill, 126
bleed-off in concrete culverts, diamond drilling, 137
boring in masonry with diamond drills, vibration, 273
brass measuring plugs drilled with diamond drills, 50
centre- grinder with diamond dressing tool, 264
diamond drill
cementing, 301
deflecting, 301
fibreglass reinforced plastic with diamond
drill for drilling, 28
tools for trepanning, 28
fixing drilled with diamond tools, 172

reaming
centre in ferrite cups, 72
diamond bit, 50
small running through die ground with diamond impregnated tools, 219
weep, diamond drilling, 124
Holland, glass decorators, 164, 165, 166, 167
Hollow diamond probe used in drilling procedure, 22
Hones, diamond, 16
impregnated for honing
finish, 291
rough, 291
Honing
diamond
cylinder liners, 290, 291, 292, 293
impregnated
heads, 289
hones
finish, 291
rough, 291
stones, 231, 232
metal bonded sticks, 291
gear, 97
machine
automatic transfer, 289, 291
high speed, 181
internal bores with diamond shoes, 11
precision control, 291
Hot
pressing for setting diamonds in shanks, 92
rolling with forged steel rolls of metals
ferrous, 139
non-ferrous, 139
Hydraulic
concrete wall saw, 155
rotary drilling rig, 63
shock absorbers, 299
unit
control, 22
feed, 22
controlled, 22
Hydrogen, 64
Hypersonic
air speeds, 133
tunnel liners, 133
wind-tunnel silica liners machined with diamond tools, 135

I

Idler gear sleeve ground with diamond dressed wheel, 47
Imitating step machine for testing floor materials, 205
Impact
crusher of EMB diamond grit, rotary, 193
particles causing cathode surface damage, 89
resistance of sintered metal matrix, 146
strength of EMB diamond grit, 192, 193
test, 196
Imperfections
carbon, 10
graphite, studied with electron microscope, 10
Impregnated
diamond
bit
core, 311
drilling glass, 71
blades
cutting stone slabs with frame saws, 84
saw, 268, 269, 287
ancillary, 294
cutting transverse expansion joints, 159
self-propelled road sawing machine, 210
coring drills for core drilling of concrete, 284
dressers, 200, 201
files, 303
grinding
disc on electrolytic grinding machine, 143
points
mounted on air turbine head, 219
small for making die inserts, 219
wheel, 175
bonded
metal
edging lenses, 106
grinding diamond stylus on a pointing machine, 112
resin, 275
grinding spherical joints, 281
high precision lens edging, 105
resharpening tungsten carbide tipped tools, 139
hones for honing
finish, 291
rough, 291
honing
heads, 289
stones, 231, 232
natural
metal bonded cup wheel, 179
tools
cutting Amersil quartz, 233
finishing Amersil quartz, 233
powder for finish grinding agate products, copper, 110
probes
efficiency
cutting, 21
grinding, 21
power output, 21
rate of feed, 21
reamers, metal bonded, 72
saw
circular metal bonded, 305
cutting
fibreglass reinforced plastic, 28
hard PVC, 28
perspex, 28
slitting for producing sides of silica blocks, 135
spherical generator for curving lens blanks, 106
tools
grinding
small holes running through die, 219
stopcock, 280, 281
limestone
rough shaping, 84
sawing, 84
wheels
bonded
metal, 144
lapping tools
hand, 133
lathe, 133
resin, 144
lapping tungsten carbide tools, 19
manufacturing, 175
bronze for grinding hemispheres
annular for female, 281
tubular for male using mist lubrication, 281
cup, 310
cutting fused silica, 133
flat grinding of vacuum chucking equipment, 142
polishing marble, 312
rubber abrasive
cones, 11
points, 11
Impurity content of diamond, chemical, 64
Inclusions in diamond, absence, 114
Increased quality of surface finish affected by heat form by friction at high cutting speed, 68
Increasing cutting power of diamond particles by chemical carrier, 15
Indenter, diamond, 144, 232
hardness tester, 201
pyramid on a penetrascope, 141
Index, refractive of Canada balsam, 108
India diamond deposits
alluvial, 30, 33
conglomerates, 30, 31, 32, 33
eluvial, 30
geology, 30
pipes, 30, 31
residual, 30, 31
Indian diamonds
birefringence, 33
deposits, 30, 31, 32, 33, 34, 35
evaluation, 35
fields, modern mining methods, 25
luminescence, 33
method
mining, 34
recovery, 34
sale, 34
sampling programme, 35
structure, 33
ultraviolet transmission, 33
Indicators of degree of perfection in the crystal, luminescence in diamond, 64
Industrial diamonds, 33
abrasive
lapping, 12
polishing, 12
bridge building, 299
cutting
economic use
marble, 172
stone, 172
products, 252
grinding products, 252
new applications, 157
tool
business, 236
searching for petroleum sources, 118
usage, 131
Industry
deep well drilling, 61
diamond
sawing in the stone, 172
tooling cuts cost in stone, 172
tools in aircraft, 132, 133, 134, 135
granite plates
aeronautical, 199
atomic, 199
electronic, 199
optical, 199
machine tool, report, 18
Infeed arrangement of wheelhead unit, 265
Infra-red work using optically polished sapphire windows, 110
Inherent quality of diamond, 114
Injection nozzles, fine boring of ultra-hard materials, 54
Inserts
Bottocino marbles diamond sawn in curved precast concrete panels, 44, 45
die made with small diamond-impregnated grinding points, 219
Inside cutting diamond wheel, 238
Inspection
gears, 97
kit, 210
Installation of mining equipment for re-processing of tailings, 25
Instruments
laser for microwelding of precision, 187
surface measuring, 237
Insulants, liquid, 86
Insulating properties at high temperatures of sapphire, 110
Insulation studies, surface preparation of electrodes for electrical, 85, 86, 87, 88, 89
Insulators
electrical, oil, 85
sapphire, 110
Interchangeable
glassware manufacture, 281
stopcock, 281
Interferometer, 186
Fizeau, 189
gauging flatness, 288
Interior surfaces of sintered bronze bearings, surface finish, 217
Intermediate joints in concrete pavements, 161
Internal
bores on honing machines with diamond shoes, 11
crankshaft primary gear grinder with automatic diamond dressers, 47
diameters of alumina cylinders ground with metal bonded diamond grinding wheel, 37
heat of cement, 161
structure of reinforced plastic damaged, 28
thread grinding machine, 288
Inverted pendulum for foundation movement measurement, 168
Investigation into properties of diamond
optical, 185

thermal, 185
Iron
cast- lap
diamond compound
helical slot expanding, 16
removal of abrasive marks, 15
high stock removal, 16
cast- lapping wheel with diamond compound for finishing small batches of components, 15
cylinder liners, perlitic, 291
hardness testing, 232
ore, high grade for steel production, 177
Waffle- store, 277
magnetic thin film memory produced with diamond tools, 276, 277, 278
Irradiation
carbon, 10
effects produced on diamond
fast neutrons, 64
high energy electrons, 64
Irregularities of surface from poured ceilings removed on grinder, 77

J
Jet, air flushing cuttings away from laboratory drill, 118
Jewellery, 113
automatic diamond milling machine for decorating, 182
pattern cut automatically, 171
milling tool for production, 103
Jewels, drilling watch, 54
Jobs, plumbing simplified with diamond drilling rig, 104
Joints
centreline, 8
concrete sawing
diamond saws, 158, 159
equipment, 266
random cracking minimized, 159
contraction, diamond sawing, 282
expansion, diamond sawing, 282
forming with a T-bar, 160
intermediate in concrete pavements, 161
longitudinal, diamond sawing, 159, 282
sawing on highways, 8, 9
sawing in concrete paving, 160, 161, 162
random cracking problem, 163
spherical joints ground with diamond impregnated grinding wheels, 281
transverse, 9
contraction of concrete sawn with diamond saw, 266, 268
expansion cut with diamond impregnated saw blades, 159
sawing, 8
wide, diamond sawing, 9
Jump marks in bores, removal, 16

K
Kerbs, sawing granite
diamond
blades, 244
slots, 244
mobile saw, 244
Kerosene
coolant, 22
grinding fluid for wet grinding of tungsten carbide cutting tools with metal bonded diamond grinding wheels, 67
Kinetics of diamond oxygen reaction, 10
Kit for inspection, 210
Klystron power tubes for high power systems in betatron atomic particle accelerators, outside diameters on envelopes ground with metal bonded diamond grit wheels, 37
Knife
sharpening
edges, 16
agate of beam balances with diamond compound, 16
shearing with diamond compound, 16
machine with diamond wheels, 265
-turning diamonds, 308

L
Laboratory
drill with air jet flushing cuttings away, 118
experiments in hardness measurements, 260
tests with hard core drilling diamonds, 297
Labour in concrete sawing, reduction in cost, 161
Laminated plastics, 80
Lap
brass for lapping tungsten carbide dies, 16
cast iron
diamond compound
abrasive marks removed, 15
helical slot expanding, 16
high stock removal, 16
cleansing material
carbon tetrachloride, 15
Ethermeth, 15
Teepol, 15
trichlorythelene, 15
copper with medium finishing compound, 16
diamond hand lapping tungsten carbide tipped tools, 139
felt, 17
fibre, 17
selection, 15
separate for separate grade of diamond compound, 17
shaft lapping with contraction helical type, 16
shoes
felt, 16
preformed metal, 16
wood
hard, 16
preformed, 16
soft, 16
steel for lapping tungsten carbide dies, 16
storage, 17
wood, 17
densified for removing abrasive marks with diamond compound, 15
Lapped tungsten carbide tools with diamond paste, 75
Lapping
abrasive with industrial diamonds, 12
agate products with diamond powder, 110
automatic
attachment, 48
flat machines, 12
diamond
compound
cast iron wheels for finishing small batches of components, 15
controlled dispenser, 15
finishing carbide-plated tool steels, 275
grades, 15
impregnated metal bonded wheel for tools
hand, 133
lathe, 133
laps hand for tungsten carbide tipped tools, 139
particles in compounds, 13
paste
gauges, 232
test specimens, 232
gear, 97
high surface finish, 281
machine, 48, 154
selected natural diamonds for tungsten carbide die components, 127
shaft with contraction helical type lap, 16
silicon carbide as medium, 281
tungsten carbide
diamond powder to correct out-of-roundness, 40
dies with laps
brass, 16
steel, 16
rolls, 16
tools with resinoid diamond impregnated wheel, 19
Large grinding wheel with a convex radius dressed with a diamond tool, 58, 59
Laser, 234
beam bouncing-off the moon, 187
behaviour, 189
equipment
measuring atmospheric dust distribution, 186
tracking satellites, 186, 187
gas,189
micro-welding
miniature electronic parts, 187
precison instruments, 187
ruby
first, 187
miniature, 187
rods, local correction for use, 186, 187, 188, 189
Lathe
automatic, 76
bed
finish grinding, 227
machining on multi-head grinders, 226
milling feet, 227
building, flow line principles, 226
contact lens with diamond tipped tools, 254
diamond
follower, 176
tools, 76, 254, 303
manufacture, 226, 227
turning, 308
multi-purpose, 211
tools
lapped with diamond impregnated metal bonded wheel, 133
tungsten carbide throwaway
diamond grinding recommended, 179
grinding with natural diamond wheels, 177
Lattice defects in diamond, 64
Law, Stokes', 92
Lay gear grinding, 46
Laying equipment for concrete surface, 266
'Leaf, Clover' pattern on anode
Leather
soles trimmed with diamond coated wheels, 43
wear testing with diamond-head apparatus, 204
Lens
blanks
curving with diamond impregnated spherical generator, 106
holding in position with vacuum chuck, 106
cementing together, 108
cinematograph cameras, 109
contact
contouring, 257
edging, 257
haptic glass, 254
lathe using diamond tipped tool, 254
machining blanks with diamond tools, 257
plastic corneal, 254
tailor-made, 254, 255, 256, 257
curvatures with diamond turning tools
concave, 257
convex, 257
diamond
abrasive
curve generation, 108
edge grinding, 108
grinding, 106, 107, 108, 109
edging, 106
diamond impregnated metal bonded grinding wheel, 106
generation marks removed from the roughing with emery powder, 106
high precision edged with diamond impregnated grinding wheels, 105
highly specialised photographic equipment, 109
mounts, 109
diamond turning of TV, 308
zoom, 308
polishing, 106
zirconium oxide powder, 106
rounding machine using diamond wheel, 310
television cameras, 109
Level of energy in diamond, 64
Levelling out-of-true concrete, 282
Life

diamond
blade, 8
grinding wheels, long, 70
saw blade multiplied by four-cycle grinding technique, 79, 80, 81, 82
tool of saw blade
steel, 81
tungsten carbide, 81
Lifting out sand with auger, 99
Light
alloys for coating materials, 80
formations
penetrating with roller bits in one operation, 61
rock, rotary drilling through, 60, 61, 62, 63
Lighter shells, 182
Limestone, 83, 84
aggregate in concrete, 266
diamond
saws for cutting, 145
tools
bonded
rough shaping, 84
sawing, 84
impregnated,
rough shaping, 84
sawing, 84
Limitations in metrology, natural, 208
Line
automatic gear
grinding, 46
shaving, 46
flow principles in lathe building, 226
standards
measurements, 170
ruling, 170
diamond tracelets, 170
Linear xenon discharge tube, 187
Liners
cylinder
diamond honing, 290, 291, 292, 293
perlitic iron, 291
hypersonic tunnel, 133
wind, diamond tools machining silica, 135
Links, gold watch with patterns engraved by natural diamond points, 75
Liquid
insulants, 86
phase in sintered metal matrix during sintering, 146
Loading water, 168
Local correction of ruby rods for laser use, 186, 187, 188, 189
Locating points of natural diamonds on gauging equipment, 127
Long life of diamond grinding wheels, 70
Longitudinal joints, diamond sawing, 159, 282
Loss of pressure on diamond core drill, 210
Losses, machine tool power, 38
Low diamond concentration of sawing granite, 244
Lubricant for diamond particles, chemical carrier, 13, 15
Lubricating fluid using diamond compound, 17
Lubrication, mist used when grinding male hemisphere with diamond impregnated bronze tubular wheel, 281
Luminescence in diamond
Indian, 33
indicator of degree of perfection of the crystal, 64
Lustre of diamond, good

M
Machine
automatic
grinding ferrites, 72, 73
race pairing, 173, 175
boring, Conrod, 144
crushing for abrasive articles, 104
cutting
automatic for quartz using electro-metallic diamond discs, 144
brick, 76
concrete slab, 76
diamond saw, 154
glazed tile, 76
-off for grooving ferrite plates, 278
stone, 76
drilling
concrete, 294
fine of ultra-hard materials, 54
high production speed, 54
repeatability, 54
glazed tiling, 265
micro, 49
rotary, 63
semi-automatic for diamond dies, 56
engraving, 263
glass using polished diamond points, 49
printing blocks, 2
finishing for concrete, 266
gauging, automatic, 293
grinding
centreless, 200
automatic, 228
Conrod, 144
cutter, 144, 263
cylindrical, 289
diamond for grinding plate glass, 69
electrolytic with diamond
impregnated grinding disc, 143
metal bonded wheel for carbide tools, 142
peripheral type, 142
flute for taps, automatic, 289
internal thread, 288
preparing metallographic specimens with abrasives
aluminium oxide, 155
diamond, 155
tool, 144
diamond grinding wheels, 302
tungsten carbide die components with selected natural diamonds, 127
honing
high speed, 181
internal bores with diamond shoes, 11
transfer, automatic, 289, 291
lapping, 48, 154
flat, automatic, 12
milling, 180
diamond, 75, 171
automatic for decorating jewellery, 182
pantograph, 75
pointing using a metal bonded diamond impregnated wheel for grinding diamond stylus, 112
polishing for preparing metallographic specimens with abrasives
aluminium oxide, 155
diamond, 155
profiling, 263
rounding of lenses with diamond wheel, 310
sawing
concrete, 294, 309
diamond
bladed, 197, 198, 282
two saws for marble, 45
self-propelled road, diamond impregnated blades, 210
sharpening for knife with diamond wheels, 265
single-blade, 8
tandem arrangements, 9
specially designed for diamond tools, 116
step-imitating for testing floor materials, 205
testing
granular abrasives, 149
particle strength, 149
grit
abrasive, 149
aluminium oxide, 149
diamond, 149
silicon carbide, 149
hardness
diamond
foils, 143
small parts, 143
thin materials, 143
visual
Brinell, 142
diamond pyramid, 142
tool
design, 209
gear
cutting, 97
finishing, 97
power losses, 38
problem of vibration, 38
report on industry, 18
research, 209
bearings, 208
control, 208
structures, 208
vibration, 208
trenching, 98
washing with dial plates of glass
enamelled, 69
hardened, 69
Machinery
building, 294
road making, 294
Machining
ceramic valve components, 302
contact lens blanks with diamond tools, 257
diamond coated tools
ablation plastics, 90
alumina, 90
metal ceramics, 90
silicon carbide, 90
special glasses, 90
economics, 38
electrical methods research, 208
glassfibre reinforced plastics, 26, 27, 28, 29
diamond tools
advantages, 27
high cutting speed, 27
increasing production capacity, 27
lathe beds on multi-head grinders, 226
nylon, 67
photogravure printing cylinders with diamond tools, 52, 53
plastics with diamond tools
cutting for high surface finish, 68
electrical potentiometers with single point natural, 57
silica
blocks with wheels with diamond grit plated peripheries, 135
liners in hypersonic wind-tunnels with diamond tools, 135
tools
carbide, 38
diamond, 38
oxide, 38
High Speed Steel HSS, 38
tungsten carbide components, 302
wind tunnel models with diamond drssed grinding wheels, 133
Macro-hardness tests of sintered metal matrix, 148
Magnetic
circuit, 277
Waffle-Iron thin film memory store produced with diamond tools, 276, 277, 278
Magnetron power tubes for high power systems in betatron atomic particle accelerators envelopes outside diameter ground with metal bonded diamond grit wheel, 37
Maintaining tungsten carbide tipped tools with diamond grinding wheels, 201
Making
die inserts with small diamond-impregnated grinding points, 219
road machinery, 294
Male hemisphere ground with diamond impreganted bronze tubular wheel using mist lubrication, 281
Manufacture
composite back-up rolls with diamond, 141
diamond
cutting tools, 117
drill crowns, 247, 249
tools research, 225
front-dial plates, 71
gear, 97
interchangeable glassware, 281
lathe with diamond tools, 226, 227
metrology, 208
mirror, 69
pills with diamond compound, 16
tungsten carbide dies with diamond, 127
controlled grit size, 127
Manufacturing
diamond
resin bonded impregnated wheels, 175

single-point dressing tools, 92
equipment of diamond
synthetic, 157
tools, 225
process for synthetic diamonds, 157
Marble, 83
Bottocino diamond sawn inserts in curved precast concrete panels, 44, 45
cutting
diamond saw blades, 312
economics by using industrial diamonds, 172
EMB diamond grit for sawing, 223
polishing with diamond impregnated wheels, 312
quarrying slabs with diamond tools, 251
rough grinding with diamond wheel, 312
sawing on machine equipped with two diamond saws, 45
Marginal concrete strips on motorways cut with diamond blades, 253
Marks
abrasive removed with diamond compound on lap
cast-iron, 15
densified wood, 15
chatter in bores removed, 16
generation on lenses from the roughing with emery powder removed, 106
jump in bores removed, 16
Maser, 234
development of optical, 187
Masonry
drilling with portable diamond drill, 126
saw, 310
flexible, 310
vibration of boring holes with diamond drill, 273
Master standards of glass form, 106
Materials
bond, coolants for production, 39
bonding for diamond grinding wheels
clean, 80
uniform, 80
characteristics, 38
cleansing for laps
carbon tetrachloride, 15
Ethermeth, 15
Teepol, 15
trichlorethylene, 15
coated with list alloys, 80
floor tested on step-imitating machine, 205
hard
slicing with diamond saw, 49
ultra- fine
boring
filters, 54
injection nozzles, 54
spinnerets, 54
drilling, 54, 55, 56
diamond abrasive suspended in oil, 54
machines, 54
high production speed, 54
repeatability, 54
metallurgical properties, 38
thin on diamond hardness testing machine, 143
under pressure photographed on x-ray camera with diamond anvils, 94
Mating
hardened steel parts, 16
steel with a molybdenum surface for baulk rings, 46
Matrix
diamond cutting discs for grooving ferrite plates, 278
sintered metal
abrasion resistance, 146
characteristics, 146
impact resistance, 146
liquid phase during sintering, 146
macro-hardness tests, 148
microhardness exploration, 148
thermal conductivity, 146
Maximum
EMB diamond grit
blockiness, 192
efficiency of particles, 224
purity of diamond, 114
Measurements
hardness, 259
case-hardened
gear-wheels, 259
process, 258, 259, 260
diamond, 258
natural, 127
precision, 258
laboratory experiments, 260
tests, 260
inverted pendulum for foundation movement, 168
line standards, 170
stresses by electrical resistance gauges, 168
surface finish, 170, 208
diamond styli, 170
Measuring
atmospheric dust distribution with laser equipment, 186
brass plugs with holes drilled with diamond bits, 50
hardness of rolls by rebounding diamond point of the surface, 141
instruments for surface, 237
nitrogen concentration in diamond, 185
rollers with diamond ground tungsten carbide end gauges, 176
stress underground with diamond tools, 50
Mechanical
engineering design, 234
penetration rate of diamond drill crowns, 249
polishing of electrode surfaces with diamond paste, 88
properties
carbon, 10
diamonds, developments, 185
strength of diamond crystals, 249
twinning of crystals, 234
Mechanics
research of cutting, 208
rock breakage, 262
Mechanism of core recovery, 243
Media, heavy equipment for gravel samples
screening, 120
sorting, 120
Medium
diamond grit for glassfibre reinforced plastic
cutting 27
grinding, 27
finishing compound on copper laps, 16
silicon carbide as lapping, 281
size grinding spindle, 212
Melting point
diamond, 39
resin bonded wheels, 39
tungsten carbide, 39
Memory store of Waffle-Iron magnetic thin film produced with diamond tools, 276, 277, 278
Mesh-reinforced concrete, wire, 8
Metal
alloys, hard developed under high pressures, 157
bond diamond grit, EMB Engineered, 192, 193, 194, 195, 196
bonded
cup wheel impregnated with natural diamonds, 179
diamond
grinding wheels
glass
edging, 69
engraving, 307
stippling, 307
grinding
high-density alumina ceramic envelopes for vacuum tubes, 36, 37
internal diameter of alumina cylinders, 37
tungsten carbide, 42
wet of tungsten carbide cutting tools using kerosene as grinding fluid, 67
grit wheels for grinding outside diameters on envelopes for power tubes for high power systems in betatron atomic particle accelerators
klystron, 37
magnetron, 37
honing sticks, 291
impregnated
circular saws, 305
reamers, 72
wheels, 144
grinding
diamond stylus on a pointing machine, 112
edging lenses, 106
lapping tools
hand, 133
lathe, 133
natural segmented sawing blades, 220
saws for sawing glass, 70
segments cutting edge, 9
sintered tools, 148
wheels, 225
electrolytic carbide tool grinding machine, 142
peripheral type, 142
grinding ferrite cup centre post, 72
pencil edging, 70
ceramics machined with diamond coated tools, 90
cutting principles, 38
ferrous using forged steel rolls for rolling
cold, 139
hot, 139
matrix, sintered
characteristics, 146
liquid phase during sintering, 146
macro-hardness tests, 148
micro-hardness exploration, 148
resistance
abrasion, 146
impact, 146
thermal conductivity, 146
non-ferrous using forged steel rolls for rolling
cold, 139
hot, 139
particles cleaned from borehole walls, 249
preformed shoes on laps, 16
sintered, thermal expansion, 146
surfaces
clean, 86
technically, 86
pure, 86
wind tunnel models, 133
Metallographic specimen preparing on machine
grinding with abrasives
aluminium oxide, 155
diamond, 155
polishing with abrasives
aluminium oxide, 155
diamond, 155
Metallurgical properties of materials, 38
Meter for surface roughness, 236
Method
combination rotary drilling, 63
digging, 99
electrical machining research, 208
excavating, 99
extraction in quarries, 285
grinding
Besly, 42
Blanchard, 40, 41
Indian of diamond
mining, 34
modern in fields, 25
recovery, 34
sale, 34
placing diamond in drill crowns, 246
wedging, 301
Metrology
engineering dimensional, 170
manufacture, 208
natural limitations, 208
optical, 208
Micro
drilling machine, 49
hardness exploration of sintered metal matrix, 148
-inch finishes, high precision, 12
-specimen preparation with aluminium oxide slurries, 12
-welding with laser
miniature electronic parts, 187
precision instruments, 187
Microgeometry of an electrolytically polished surface, 88

Micrometer swing-up diamond truing attachment, 289
Microscope
electron for the study of graphite
dislocations, 10
imperfections, 10
study of tooth specimens prepared with thin diamond blades, 19
Microtome slicing, 16
Microtoroids, tiny ferrite ring cores, 276
Microwave electronics, ceramics, 262
Milling
cutters
electrolytic grinding, 303
tungsten carbide tipped
resharpened on diamond grinder, 139
sharpening with diamond grinding wheel, 231
forged steel rolls with tungsten carbide tipped tools, 139
lathe bed feet, 227
machine, 180
diamond, 75, 171
automatic for decorating jewellery, 182
tool for jewellery production, 103
Mineral
definition
crystallography, 170
physical properties, 170
determination
blow-pipe analysis, 170
elementary chemistry, 170
study, 170
Miniature
electronic parts micro-welded with laser, 187
ruby laser, 187
Minimizing random cracking in concrete joints by diamond sawing, 159
Mining
installation of equipment for reprocessing of tailings, 25
methods of diamond, Indian, 34
modern in fields, 25
Mirror
diamond grinding wheels
bevelling, 70
grinding, 70
finish, polishing tip of stylus, 112
finishing of bearing surfaces, 216
manufacture, 69
Mist lubrication for grinding male hemisphere with diamond impregnated bronze tubular wheel, 281
Mixer of concrete, 266
Mobile saw for sawing granite kerb, 244
Models, wind tunnel
diamond
dressed grinding wheels for machining, 133
paste for finishing, 133
aluminium, 133
tools producing high precision, 133
metal, 133
nickel chrome steel, 133
Modern mining methods in Indian diamond fields, 25
Modifications in buildings made possible by diamond drilling, 123
Molybdenum surface for baulk rings mated with steel, 46
Moon, laser beam bouncing-off, 187
Motor car windows, glass
enamelled, 69
hardened, 69
Motorways concrete marginal strips cut with diamond blades, 253
Moulding curved concrete panels, 45
Mounted
abrasive points, 11
diamond
impregnated grinding points in air turbine head, 219
tipped tool in radiusing fixture, 254
Mounting diamond
holder, 115
wheel on vibration-free spindle, 80
Mounts, lens, 109
diamond turning of TV, 308
zoom, 308
Movement measurement of foundation with inverted pendulum, 168
Moving equipment, heavy earth-, 96
Mud, driller's for cooling diamond core drill, 118
Multi
bladed circular diamond saw, 287
-head grinders for machining of lathebeds, 226
-point diamond wheel dresser, 144
-purpose lathe, 211
-ribbed wheel forming, 288
Multiple
cutting edge in diamond tools, 116
natural diamond dressing unit on single spindle, 77
Multiplying saw blade life by four-cycle grinding technique, 79, 80, 81, 82

N
Naats in diamond, absence, 144
Natural
diamond
dressing unit on single spindle, multiple, 77
EMB, 192, 193, 194, 195, 196, 221, 222, 223, 224
grit testing, 192, 193, 194, 195, 196, 221, 222, 223, 224
grinding wheels on automatic surface grinder for grinding granite plates, 199
grit, 224
hardness measurements, 127
locating points on gauging equipment, 127
mental bonded impregnated cup wheel, 179
points for engraving patterns on gold watch
cases, 75
links, 75
segmented metal bonded sawing blades, 220
selected for tungsten carbide die components
hand finishing, 127
lapping, 127
machine grinding, 127
tools
facetted for turning gold watch cases, 74
impregnated for Amersil quartz
cutting, 233
finishing, 233
polished, 227
single-point for machining plastics for electrical potentiometers, 57
wheels for grinding tungsten carbide throwaway lathe tools, 177
stone
diamond tools
cutting, 84
shaping, 83, 84
saw for wet cutting, 129
limitations in metrology, 208
Neodymium
calcium tungstate, 186
glass, 186
pulsed device, 189
Neutron
fast producing irradiation effects on diamond, 64
slow activation analysis, 64
New applications for industrial diamonds, 157
Nickel
-base alloys, 148
chrome steel wind tunnel model, 133
Nitrates, ammonium explosives for benching, 262
Nitrides, 262
Nitrogen in diamond
causing fluorescence, 64
measuring concentration, 185
Nomenclature of gears, 97
Non
-diamond abrasive finishing tools, 15
-ferrous metals, forged steel rolls for rolling
cold, 139
hot, 139
-oxides, properties, 262
Nose
radius of cutting tool tip for surface finish quality, 68
round on diamonds, 308
Nozzles for injection of ultra-hard materials, fine boring, 54
Nuclear
graphite, 10
reactor control rods of hard boron steel surface ground with diamond dressed grinding wheels, 141
Nylon
fine turning with diamond tools, 68
machining, 67

O
Occurrence, 64
Octahedra, hexakis- form of diamond, 33
Octahedron diamond in drill crown, smooth faceted
Off-hand grinder with diamond wheel dresser, 77
Oil
diamond abrasive for fine drilling ultra-hard materials, 54
electrical insulator, 85
wells drilled with diamond, 246, 247, 248, 249, 250
Openings in wall created with thin-walled diamond bits, 96
Operation, one for roller bits penetrating light formations, 61
Optic head, 2
Optical
absorption of diamond, 64
defects, 64
-electronic comparator for gauging fine wire diameters, 279
industry, granite plates, 199
masers development, 187
metrology, 208
polished sapphire windows for use in work
infra-red, 110
ultra-violet, 110
properties
diamond, 64
investigation, 185
sapphire at high temperatures, 110
Optimum grinding efficiency, 22
Ore
concentrate, 99
iron, high grade for steel production, 177
treatment plant, 99
Out-of-roundness on tungsten carbide corrected by lapping with diamond powder, 40
Out-of-true concrete, levelling, 282
Outer sleeves of stainless steel air bearings ground with corundum stones, 214
Output, power of diamond impregnated probes, 21
Outside diameters on envelopes for power tubes for high power systems in betatron atomic particle accelerators ground with metal bonded diamond grit wheel
klystron, 37
magnetron, 37
Overburden
blasting through, 262
depth ascertained with percussion drill, 98
Overcoming
detergent foaming by diamond drilling of sewer culverts, 136, 137
grinding dust build-up by flushing stream of water over grinding wheel and equipment, 59
Oversized diamond particles, 12
Oxidation of single crystals of graphite, 10
Oxide
aluminium
abrasives for preparing metallographic specimens on machine
grinding, 155
polishing, 155
grit, machine testing, 149
slurry for micro-specimen preparation, 12
aluminous abrasive slurry, 15
tools
machining, 38
temperature conditions, 38
tool wear, 38

uranium, techniques for drilling samples, 24
zirconium powder for final polishing of lenses, 106
Oxygen reaction of diamond, kinetics, 10

P
Pairing machine, automatic race, 173, 175
Panels, curved concrete
moulding, 45
precast with diamond-sawn inserts of Bottocino marble, 44, 45
Pans, rotary washing, 99
Pantograph, 263
machine, 75
profiling truing device, 211
Paper cold rolling with forged steel rolls, 139
Paramagnetic susceptibility of graphite, 10
Particles
abrasive, crushing machine, 104
betratron atomic for accelerators, metal bonded diamond grit wheels for grinding outside diameters on envelopes for power tubes for high power systems
klystron, 37
magnetron, 37
diamond
bonded to the cutting edge of spring steel blades for cutting fibreglass, 28, 29
chemical carrier
coolant, 13
increasing cutting power, 15
lubricant, 13, 15
distribution, 12
hardness, 88
lapping compounds, 13
oversized, 12
permanent suspension, 12, 13
precision grinding of ferrites, 72
scientific sizing, 13
efficiency, maximum of EMB diamond grit, 224
flawed of hard core drilling diamonds
removal, 295
rounding, 295
impact causing cathode surface damage, 89
metal, cleaning from borehole walls, 249
separators, 85
shape of EMB diamond grit, 224
size
comparative of diamond and tungsten carbide, 39
diamond
EMB grit, 193
wheel, 39
strength of granular abrasives, machine testing, 149
Parts
conical for cylindrical core breaker on diamond drill crowns, 247
miniature electronic micro-welded with laser, 187
small, diamond hardness testing machine, 143
steel
hardness checking on diamond hardness tester, 139
mating hardened, 16
Paste, diamond, 128
finishing wind tunnel models, 133
aluminium, 133
lapping
gauges, 232
test specimens, 232
tungsten carbide tool, 75
polishing
mechanical of electrode surfaces, 88
plastics, 219
Pattern
'Clover leaf' on anode, 89
diamond
natural points for engraving on gold watch
cases, 75
links, 75
setting in diamond drill crowns, 247
fluid grooves in diamond drill crown, 246
jewellery cut automatically, 171
size distribution of diamond grit, 192
Pavement, concrete
fast coring process, 160, 161
intermediate joints, 161
laying by conventional paving train, 158
stress, 163
Paver, slip form, 282, 284
Paving
concrete
sawn joints, 160, 161, 162, 163
random cracking problem, 163
train, 266
train, conventional for laying concrete pavement, 158
Pen burnishing with diamond tools, 311
Pencil
diamond
engraving, 164, 167
grinder, 211, 212, 214
edging with metal bonded diamond wheels, 70
Pendulum, inverted for foundation movement measurement, 168
Penetrascope with diamond pyramid indenter, 141
Penetrating light formation in one operation with roller bits, 61
Penetration rate
diamond drill crowns, 250
mechanical, 249
ultrasonic drilling of ceramics, 24
Percussion drills for ascertaining depth of overburden, 98
Perfect balance of diamond grinding wheel, 80
Perfection of crystal, luminescence of diamond one of the indicators of degree, 64
Performance of diamond
EMB grit, 192, 221
hard core drilling, 295
Peripheral
diamond grinding wheel, 175
metal bonded on electrolytic carbide tool grinding machine, 142
tungsten carbide, 40
wheel forming device, 226
Peripheries, diamond grit plated wheels for machning silica blocks, 135
Perlitic iron cylinder liners, 291
Permanent suspension of diamond particles, 12, 13
Permeability of carbon, 10
Perspex cutting with diamond impregnated saw, 28
Petroleum sources, searching with industrial diamond tools, 118
Phase, liquid in sintered metal matrix during sintering, 146
Phenomena, breakdown, 85
pre-, 85
Photo-conductivity in diamond, 64
Photoelectric cells, 2
Photographic
high specialised equipment, lenses, 109
process of blockmaking, 2
Photographing materials under pressure with x-ray camera with diamond anvil, 94
Photogravure printing cylinder
copper coated
finishing with diamond tools, 53
turning with tungsten carbide tool, 53
machining with diamond tools, 52, 53
Physical properties for definition of a mineral, 170
Physics
diamond, 64
engineering solids, 97
high pressure, 38
Piezoelectric ceramics, fragile grinding with diamond, 129
Pills, diamond compounds for manufacture, 16
Pink sapphire, synthetic, 186
Pipe, blow- analysis for determination of a mineral, 170
Pipes, diamond
deposits in India, 30, 31
drilling for routing, 125
Piston connecting rods grinding with diamond dressed wheels, 46
Placing diamonds in drill crown, method, 246
Planing, surface of fibreglass reinforced plastic with diamond tools, 27
Plant
concrete road-making, 266
ore treatment, 99
Plastic
acrylic, fine turning with diamond tools, 68
components in record units
changer, 219
player, 219
corneal contact lenses, 254
resin, curing, 175
Plasticity
applications, 208
fundamentals, 208
Plastics
ablation machining with diamond coated tools, 90
cold rolling with forged steel rolls, 139
fine turning, 65
diamond tools
surface finish, 65, 66, 67, 68
thermo-, 65
thermo- with hard alloy cutting tools, 65
grinding, 65
laminated, 80
machining with diamond tools
cutting, high surface finish, 68
single-point natural for electrical potentiometers, 57
polishing, 65
diamond pastes, 219
reinforced
damage to internal structure, 28
fibreglass
diamond
cutting producing dust, 29
drill drilling hole, 28
grit as medium
cutting, 27
grinding, 27
impregnated saw for cutting, 28
tools
machining
advantages, 27
edge routing all forms, 27, 29
high cutting speed, 27
increasing production capacity, 27
surface planing, 27
thicknessing 27
trepanning hole, 28
wheel for rough hogging cut, 27
machining, 26, 27, 28, 29
Plate
copper, 2
engraving, 2
ferrite, 277
glass, 305
grinding on diamond grinding machines, 69
Plated
-carbide tool steels
finishing with diamond lapping compounds, 275
grinding with diamond wheels, 275
electrolytically diamond
drills, 144
wheels, 144
peripheries with diamond grit for machining silica blocks, 135
Plates
ferrite grooved
cutting-off machines, 278
diamond matrix cutting discs, 278
front dial manufacture, 71
glass dial
enamelled
domestic cookers, 69
radios, 69
washing machines, 69
hardened
domestic cookers, 69
radios, 69
washing machines, 69
granite
grinding with natural diamond

grinding wheels on automatic surface grinder, 199
industry
aeronautical, 199
atomic, 199
electronic, 199
optical, 199
Platform for drilling, 124
Player units, record plastic components, 219
Plugs, brass measuring with holes drilled with diamond bits, 50
Plumbing jobs simplified by diamond drilling rigs, 104
Points
abrasive
mounted, 11
rubber impregnated, 11
diamond
dresser
chisel, 133
multi-, wheel
single, 231
impregnated grinding
mounted in air turbine head, 219
small for making die inserts, 219
natural
engraving patterns on gold watch cases, 75
links, 75
locating on gauging equipment, 127
polished on glass engraving machine, 49
rebounding off the surface for hardness measuring of rolls, 141
single
dressing
corundum wheel, 307
tools
manufacturing, 92
re-setting, 92
glass cutter for cutting glass, 69
natural tools for machining plastics for electrical potentiometers, 57
melting
diamond, 39
resin bonded wheels, 39
tungsten carbide, 39
single dresser, 200
Pointing machine using a metal bonded diamond impregnated wheel for grinding diamond stylus, 112
Polished
diamond
points used on glass engraving machine, 49
tools
boring, 144
natural, 227
turning, 144
optically sapphire windows for use in work
infra-red, 110
ultra-violet, 110
surface electrolytically, micro-geometry, 88
Polishing
abrasive with industrial diamonds, 12
diamond
boart, 225
tool, 115
lens, 106
final with zirconium oxide powder, 106
machine preparing metallographic specimens with abrasives
aluminium oxide, 155
diamond, 155
marble with diamond impregnated tools, 312
plastics, 65
diamond pastes, 219
saw tips with diamond wheels, 81
surface
electrodes, 88
electrolytic, 88
finish with diamond compound, 88
mechanical with diamond paste, 88
hard core drilling diamonds, 295
tips of stylus to mirror finish, 112
watch cases with diamond, 206
Polyvinyl chloride fine turning with diamond tools, 68
Portable
concrete saw, 236
diamond drill, 126
drilling
blast hole, 126
concrete, 126
exploratory, 126
masonry, 126
vertical for core sampling, 215
form grinder, air cushion, 92
Position, holding lens blank with vacuum chuck, 106
Post, ferrite cup centre grinding with metal bonded diamond wheels, 72
Potentiometer, electrical machining plastics with single-point diamond tools, 57
Poured concrete ceilings surface irregularities removing on grinder, 77
Powder
compacts, 182
diamond, 144, 175
fine, 146
finish grinding of agate products with impregnated copper wheel, 110
lapping
agate products, 110
tungsten carbide to correct out-of-roundness, 40
setting, 146, 148
working sapphire, 110
emery for removal of generation marks on lenses from roughing, 106
zirconium oxide for final polishing of lenses, 106
Powdered ferrite cups, pressed grinding with diamond wheels, 72
Power
cutting of diamond particles increased by chemical carrier, 15
losses of machine tool, 38
output of diamond impregnated probes, 21
system, high in betatron atomic accelerators outside diameter of envelopes for power tubes ground with metal bonded diamond grit wheels, klystron, 37
magnetron, 37
thermo-electric of graphite, 10
tubes for high power systems in betatron atomic particle accelerators outside diameter on envelopes ground with metal bonded diamond grit wheels
klystron, 37
magnetron, 37
Pre-breakdown phenomena, 85
Precast concrete panels, curved with diamond sawn inserts of Bottcino marble, 44, 45
Precision
ball gauging cones, wear problem, 173, 174, 175, 176
diamond tooling in watchmaking, 113, 114, 115, 116, 117
finishing with diamond tools, 229, 230, 231, 232
grinding ferrites with diamond particles, 72
hardness measurements with diamond, 258
high
lenses edged with diamond impregnated grinding wheels, 105
micro-inch finishes, 12
models of wind tunnels produced with diamond tools, 133
honing control, 291
instruments micro-welded with laser, 187
Preformed shoes on lap
metal, 16
wood, 16
Preparation
micro-specimen with aluminium oxide slurries, 12
surface of electrodes for electrical insulation studies, 85, 86, 87, 88, 89
Preparing specimens
metallographic with abrasives
aluminium oxide
grinding machine, 155
polishing machine, 155
diamond
grinding machine, 155
polishing, 155
tooth for microscope study with thin diamond blades, 19
Presplitting of rocks, 262
Press, gold watch case
forming, 74
trimming, 74
Pressed powdered ferrite cups grinding with diamond wheels, 72
Pressing, hot- for setting diamonds in shanks, 92
Pressure
drilling, 63
high
chemistry, 36
developing hard metal alloys, 157
drilling contact, 61
physics, 38
research, 94
resistance of diamond, 12
ultra, 93, 94, 95
loss on a diamond core drill, 210
photographing materials on x-ray camera with diamond anvils, 94
Pre-stressed concrete, diamond drilling, 123, 124, 125
Primary gear grinder for internal crankshaft with automatic diamond dressers, 47
Principle
air bearing, 214
flow line in lathe buildings, 226
metal cutting, 38
Printed electrical circuits on fibreglass sheets for electronic computers, 27
Printing
blocks, machine engraving, 2
photogravure cylinder
copper coated
finishing with diamond tool, 53
turning with tungsten carbide tool, 53
machining with diamond tools, 52, 53
Probe, 181
diamond, 22
electroplated, 21
hollow for drilling procedure, 22
impregnated
eifficiency
cutting, 21
grinding, 21
power output, 21
rate of feed, 21
ultrasonic drilling of ceramics, 24
vibrating, 20
Probing with diamond core drills
coalfields, 241, 242, 243
strata below dam site, 168
Problem
air
bearings balance, 214
conditioning, 124
glass production, 69, 70, 71
machine tool vibration, 38
random cracking in sawn joints in concrete paving, 163
wear on precision ball bearing cones, 173, 174, 175, 176
Procedure
drilling using hollow diamond probe, 22
EMB crushing, 224
Process
blockmaking
chemical, 2
photographic, 2
barburizing, 259
case-hardening, hardness measurements, 258, 259, 260
enamelling glass, 71
EMB diamond grit, 193, 195, 196
fast coring in concrete pavement, 160, 161
manufacturing synthetic diamond, 157
slip form, 282
Processing equipment for gravel samples
screening, 120
sorting, 120
Producing
diamond
crowns, 157
impregnated slitting saw sides of silica blocks, 135
tools, 157
glass, 305, 306, 307

high precision models of wind tunnels, 133
tapered roller bearings, 190, 191
trimming grab, 261
Waffle-Iron magnetic thin film memory store, 276, 277, 278
dust by diamond cutting of fibreglass reinforced plastic, 29
irradiation effects on diamonds
fast neutrons, 64
high energy electrons, 64
no dust using water coolant in diamond drilling, 123
Production
capacity with diamond tools for machining glass fibre reinforced plastics, 27
diamond
sawing equipment for flagstone, 220
tools
dressing, 225
truing, 225
engineering research, 208, 209
glass problems, 69, 70, 71
jewellery milling tool, 103
speed, high of machine for fine drilling ultra-hard materials, 54
steel from high grade iron ore, 177
tungsten carbide
grinding with diamond wheels, 40
Sweden's, 177
vee block, 180
Products
agate, 110, 111, 112
diamond powder
impregnated copper wheel for finish grinding, 110
lapping, 110
industrial diamond
cutting, 252
grinding, 252
Profile
diamond
drill crown with concavo-convex, 247
grinding wheel, 302
tool, 116
semi-circular face of diamond core drill crown, 247
shape
correct of diamond crown, 246
rough on top face of silica blocks by step-cutting, 135
truing device
cam, 211
diamond roller, 211
pantograph, 211
Profiling
attachment of grinding wheel, 219
diamond
devices for shaping grinding wheels, 141
rollers, 303
machine, 263
Profilometer with sapphire contact stylus, 65
Programmes, Indian diamond sampling, 35
Propelled, self- road sawing machines with diamond impregnated blades, 210
Proper use of hard core drilling diamonds, 297
Properties
carbon
electronic, 10
mechanical, 10
surface, 10
thermal, 10
diamond
electrical, 64
electronic, 64
emission, defects, 64
mechanical, development, 185
optical, 64
investigation, 185
thermal, investigation, 185
electronic of covalently-bonded crystalline solids, 64
graphite, 10
electronic transport, 10
insulating at high temperatures of sapphire, 110
metallurgical of materials, 38
non-oxides, 262
optical at high temperatures of sapphire, 110
physical for definition of a mineral, 170
Propping church tower, 271
Prospecting for diamonds, 93, 99, 100
Protecting diamond dresser from grinding dust, 119
Protection of bond materials, coolants, 39
'Pull-outs' EMB diamond grit, 224
Pulsed device
neodymium glass, 189
ruby, 189
solid state, 189
Pump in wireline core drilling
design, 153
water, 151
Pure metal surfaces, 86
Purity, maximum of diamond, 114
Purpose, multi-, lathe, 211
PVC, hard cutting with diamond impregnated saws, 28
Pyramid, diamonds
hardness
forged steel work rolls, 139
visual testing machine, 142
indenter on penetrascope, 141
Pyrolytics, 262
Pyrope, specific gravity, 170

Q
Quality
control, 232
diamond
drill bits, 274
drilling in diamond drill crown, 247
grit, 192
inherent, 114
rough, 114
selection, 246
surface finish
depending, on nose radius of cutting tool, 68
increase affected by heat formed by friction at high cutting speed,68
Quantity of diamond grit fines generated, 192
Quarries, 285
extraction methods, 285
Quarrying marble slabs with diamond tools, 251
Quartz
Amersil with impregnated natural diamond tools
cutting, 233
finishing, 233
automatic cutting machine using electrometallic diamond disc, 144
cutting, with diamond wheels, 238
fused, highly abrasive, 233

R
Race pairing machine, automatic, 173, 175
Radial dressing of grinding wheel, 101, 102
Radiation
absorbing elements in silicon carbide, 262
damage
effects in diamond, 64
graphite, 10
detectors, 234
Radios with dial plates of glass
enamelled, 69
hardened, 69
Radius
convex, dressing on large grinding wheels with diamond tool, 58, 59
cutting tool tips, nose surface finish quality, 68
forming of grinding wheels for thread grinding with shaped diamond tools, 141
generator, 154
Radiusing
fixture for mounting diamond tipped tool, 254
wheels dressing with diamonds, 176
Rake angle or diamond tool, 115
Random cracking
concrete joints minimized by diamond sawing, 159
problem in sawn joints in concrete paving, 163
Range of size of EMB diamond grit, 221
Rate
feed
controlled, 22
diamond impregnated probes, 21
penetration
diamond drill crowns, 250
mechanical, 249
ultrasonic drilling of ceramics, 24
Reaction, kinetics of diamond oxygen, 10
Reactivity of carbon, 10
Reactor, hard boron syteel nuclear control rods surface grinding with diamond dressed grinding wheels, 141
Reaming holes
centre in ferrite cups, 72
diamond bit, 50
Reamers, metal bonded diamond impregnated, 72
Rebounding diamond point off the surface for hardness measuring of rolls, 141
Recommending diamond grinding of tungsten carbide throwaway lathe tools, 179
Record
high fidelity reproduction, 216, 217, 218, 219
plastic components in units
change, 219
player, 219
Recovery
core, 118
mechanism, 243
diamond, Indian methods, 34
Reduction of cost in concrete sawing
diamond blades, 161
labour, 161
Refractive index of Canada balsam, 108
Refractories
sawing with EMB diamond grit, 223
wet cutting with saw, 129
Regrinding of copy turning tools, 179
Reinforced
concrete
drilling, 311
diamond, 123
saw for wet cutting, 129
wire mesh-, 8
plastic
damage to internal structure, 28
fibreglass, diamond
cutting producing dust, 29
drill drilling hole, 28
impregnated saw for cutting, 28
tools
edge routing all forms, 27, 29
surface planing, 27
thicknessing, 27
trepanning hole, 28
glassfibre
diamond
grit as medium
cutting, 27
grinding, 27
tools for machining
advantages, 27
high cutting speed, 27
increasing production capacity, 27
wheels for rough hogging cut, 27
machining, 26, 27, 28, 29
Reinforcement of church tower with concrete, 271
Removal
concrete with diamond saws, 237
flawed particles of hard core drilling diamonds, 295
high stock
cast iron lap, 16
developing bonds for grinding wheels, 302
marks
bores
chatter, 16
jump, 16
generation on lenses from roughing with emery powder, 106
Removing
abrasive marks with diamond compound on lap
cast-iron, 15

densified wood, 15
concrete floor with diamond saws, 235
surface irregularities from poured concrete ceilings with grinders, 77
Repairs of runways, 197, 198
Repeatability on machine for fine drilling of ultra-hard materials, 54
Report on machine tool industry, 18
Re-processing of tailings, installation of mining equipment, 25
Reproduction, high fidelity record, 216, 217, 218, 219
Research
cutting mechanics, 208
diamond, 185
tool manufacture, 225
electrical machining methods, 208
grinding, 208
high pressure, 94
machine tool, 209
bearings, 208
control, 208
structures, 208
vibration, 208
production engineering, 208, 209
temperature, 208
tool wear, 208
Resetting
no of diamond dresser, 180
single point diamond dressing tools, 92
Resharpening tungsten carbide tipped
milling cutters on diamond grinder, 139
tools
diamond impregnated grinding wheel, 139
turning on diamond grinder, 139
Residual diamond deposits in India, 30, 31
Resin
bonded
diamond wheels, 143, 225
grinding, 7
impregnated, 144, 275
manufacturing, 175
wheels, melting point. 39
plastic curing, 175
turning with diamond cutting tool, 65
Resinoid diamond-impregnated wheel for lapping tungsten carbide tools, 19
Resistance
gauges, electrical for measurements of stresses, 168
high pressure of diamond, 12
sintered metal matrix
abrasion, 146
impact, 146
wear, of sapphire, 110
Resistant to wear of rhombododecahdrons in diamond drill crowns, 249
Resisting, diamond tipped styli
abrasion, 170
wear, 170
Resistivity of graphite, 10
Restoring church tower with diamond drill, 270, 271, 272, 273, 274
Revival of diamond glass engraving, 167
Revolution speed, dependence of torque at crown, 249
Revolutionising ancient craft by diamond tooling, 74, 75
Rhombododecahedrons in wear resistant diamond drill crowns, 249
Ribbed wheel forming, multi-, 288
Riffler, diamond, 211
Rig
drill towers, 241
drilling
diamond
flexible, 96
sample cores, special, 18
simplifying plumbing jobs, 104
hydraulic rotary, 63
Rigid rotating abrasive discs, 11
Rings, 182
baulk, 46
mating of steel with a molybdenum surface, 46
cores, tiny ferrite microtoroids, 276
signet, 171
wedding, 171
Road
heating system, 244
sawing machines self-propelled with diamond impregnated blades, 210
Roadmaking, 266, 267, 268
machinery, 294
plant, concrete, 266
Rock
blasting technique, 262
breakage, mechanics, 262
pre-splitting, 262
rotary drilling through light formations 60, 61, 62, 63
Rods
nuclear reactor control of hard boron steel surface grinding with diamond dressed grinding wheels, 141
piston connecting grinding with diamond dressed wheels, 46
ruby
grinding
diamond grinding wheel, 189
end surfaces, 186
local correction for laser use, 188, 189
sapphire, grinding, 110
Roll grinding, 139
Roller
bearings, tapered produced with diamond tools, 190 191
bit
drilling
spindle speed, 61
'wildcat' wells, 61
penetrating light formations in one operation, 61
diamond
dressing, 303, 304
profile truing device, 211
profiling, 303
measuring with diamond ground tungsten carbide end gauges, 176
Rolling
forged steel rolls
cold
ferrous metals 139
non-ferrous metals, 139
paper, 139
plastics, 139
rubber, 139
hot
ferrous metals, 139
non-ferrous metals, 139
stainless steel sheeting, 16
Rolls
composite back-up manufactured with diamonds, 141
forged steel
hardened with diamond tools
dimensional tolerance, 139
surface finish, 139
rolling
cold
ferrous metal, 139
non-ferrous metals, 139
paper, 139
plastics, 139
rubber, 139
hot
ferrous metals, 139
non-ferrous metals, 139
tungsten carbide tipped tools
milling, 139
turning, 139
work diamond pyramid hardness, 139
hardness measuring by rebounding diamond point off the surface, 141
lapping tungsten carbide, 16
Roofing slabs sawing sections, 126
Rotary
drilling
combination method, 63
light formation of rocks, 60, 61, 62, 63
machine, 63
rig, hydraulic, 63
impact crusher of EMB diamond grit, 193
washing pans, 99
Rotating abrasive discs
flexible, 11
rigid, 11
Rough
cutting rough diamond, 115
diamond
qualities, 114
rough cutting, 115
finishing aluminium copying drums with carbide tools, 298
grinding marble with diamond wheel, 312
honing with diamond impregnated hones, 291
hogging cut of glassfibre reinforced plastic with diamond wheel, 27
shape of profile on top face of silica blocks by step-cutting, 135
shaping limestone with diamond tools
bonded, 84
impregnated, 84
stone cut into slabs with diamond edged disc saw, 145
Roughing lenses with emery powder, removal of generation marks, 106
Roughness, surface meter, 236
Round nose diamonds, 308
Rounding
flawed particles of hard core drilling diamonds, 295
lens on machine using diamond wheel, 310
Roundness, out-of- corrected by lapping tungsten carbide with diamond powder, 40
Routing
fibreglass with diamond tools, 27
reinforced plastic edge, 27, 29
pipes by diamond drilling, 125
Rubber
cold rolling with forged steel rolls, 139
impregnated abrasive
impregnated abrasive
cones, 11
points, 11
wear testing apparatus, 205
Ruby
device pulsed, 189
engraving, stylus, 112
lasers
first, 187
local correction, 186, 187, 188, 189
miniature. 187
rods
grinding
end surfaces, 186
diamond grinding wheels, 189
Ruler, air slide, 264
Rules, fundemental for use of diamond tools, 116
Ruling line standards, 170
diamond tracelets, 170
Rumble, 216
Runway
concrete, sawing with diamond saw, 197, 198
repairs, 197, 198

S
Safety of dam design, 168
Sale, Indian methods of diamond, 34
Salvaging diamond grit from worn diamond dressing tools, 175
Samarium in calcium flouride, 186
Sample cores diamond drilling with special rig, 18
Samples
gravel equipment
screening
heavy media, 120
processing, 120
sorting
heavy media, 120
processing, 120
techniques for drilling uranium
carbide, 24
oxide, 24
Sampling
core with portable vertical diamond drill, 215
Indian diamond programmes, 35
Sand lifting out with auger, 99
Sapphire
contact stylus in profilometer, 65
cutting with diamond wheels, 238
hardness, 110
insulating properties at high temperatures, 110
insulators, 110
rods grinding, 110
stylus, 110
slicing cine-film, 112

synthetic pink, 186
use in electronics, 110
wear resistance, 110
windows optically polished for use in work
infra-red, 110
ultra-violet, 110
working with diamond
grit, 110
powder, 110
Satellites tracking in laser equipment, 186 187
Saw
automatic span, 8, 9
four diamond blades, 9
blade life
multiplying by four-cycle grinding technique, 79, 80, 81, 82
tool
steel, 81
tungsten carbide, 81
concrete, 294
hydraulic wall, 155
portable, 236
diamond, 285, 286, 287
bladed
double, 287
multi-circular, 287
single, 287
blades
concrete, 163
cutting marble, 312
impregnated, 268, 269, 287
ancillary, 294
cutting transverse expansion joints, 159
sawing concrete, 266
segmented, 198
specifications, 255
coated steel for sawing
alumina, 91
granite, 91
concrete
abrasiveness, 159
aggregate, 159
hardness, 159
aggregate, 159
removal, 237
floor, 235
sawing
joints, 158, 159
transverse contracting, 266, 268
runway
cutting
concrete, 8
free action, 28
limestone, 145
machine, 154
edged disc
cutting rough stone into slabs, 145
trimming facing slabs to size, 145
impregnated
cutting
hard PVC, 28
perspex 28
plastic, fibreglass reinforced, 28
metal bonded circular, 305
machine equipped with two for sawing marble, 45
metal bonded for sawing glass, 70
slicing hard materials, 49
frame, 287
fitted with diamond impregnated blades for cutting stone slabs, 84
masonry, 310
flexible, 310
mobile for sawing granite kerb, 244
tips
grinding with diamond grinding wheel, 81
polishing with diamond wheels, 81
tungsten carbide tipped, diamond grinding, 80
wet cutting
breeze blocks, 129
ceramics, 129
firebrick, 129
glass, 129
natural stone, 129
reinforced concrete, 129
refractories, 129
Sawing
alumina with diamond coated steel saw, 91
concrete, 160
daylight, 163
diamond
blade with hard wearing bond, 244
saw blades, 266
joint
equipment, 266
transverse contraction with diamond saw, 266, 268
machine, 294, 309
reduction in cost
diamond blades, 161
labour, 161
runway with diamond saw, 197, 196
diamond, 300
bladed machine, 282
EMB grit
glazed tile, 223
marble, 223
refractories, 223
equipment, 198
flagstone production, 220
sawing speed, 198
field, 221
joints
concrete, 158, 159
minimizing random cracking, 159
contraction, 282
expansion, 282
longitudinal, 159, 284
wide, 9
metal bonded natural segmented blades, 220
slots in granite kerbs, 244
stone industry, 173
tipped blades, 287
ultra-thin silicon wafers, 269
fibreglass with diamond tools, 27
glass with metal bonded diamond saws, 70
granite
diamond coated steel saw, 91
kerbs
diamond blades, 244
mobile saw, 244
low diamond concentration, 244
soft bonded diamond blade, 244
joint
highways, 8, 9
transverse, 8
limestone with diamond tools
bonded, 8
impregnated, 84
machine
diamond bladed, 197, 198
self-propelled road with diamond impregnated blades, 210
marble on machine equipped with two diamond saws, 45
sections
airstrip, 309
concrete floor, 126
roofing slabs, 126
speed of diamond sawing equipment, 198
tandem, 8
Sawn
diamond- inserts of Botticino marble on curved precast concrete panels, 44, 45
joint in concrete paving, 160, 161, 162, 163
random cracking problem, 163
Scientific sizing of diamond particles, 13
Scintillation counting in diamond, 64
Screening
diamond grit, 195
gravel samples equipment
heavy media, 120
processing, 120
Screw gauge, 237
Sea floor diamonds, underwater
dredging, 120
drilling, 120
Sealed syringe-type dispenser for diamond compound, 15
Searching for petroleum sources with industrial diamond tools, 118
Sections sawn
airstrip, 309
concrete floor, 126
roofing slabs, 126
Segmental blades, diamond dust, 309
Segmented diamond saw blade, 198
metal bonded natural, 220
Segments
cutting edge of metal-bonded diamond, 9
dimensions of grinding wheel, 18
Selected diamond
natural for carbide die components
hand finishing, 127
lapping, 127
machine grinding, 127
splints, for stylus, 112
Selection
diamond
quality, 246
shape, 246
hard core drilling, 295
size, 246
drill crown diameters, 246
laps, 15
Self
-adhesive backing of biochemica cloth, 15
-propelled road sawing machine with diamond impregnated blades, 210
Semi
-automatic machine for drilling diamond dies, 56
-circular face profile of diamond drill crown, 247
-conductivity in diamond, 64
-conductors, 234
Separate
grade of diamond compound with separate lap, 17
lap for separate grade of diamond compound, 17
Separating funnels, 281
Separators, particle, 85
Setting
diamond
drill crown, 239, 241
diamond pattern, 247
smaller, 249
powder, 146, 148
shanks by hot-pressing, 92
time of concrete, 160
Sewer culverts diamond drilling to overcome detergent foaming, 136, 137
Shadowgraph, 4
Shaft
lapping with contraction helical type lap, 16
sinking, 99
Shanks, setting diamond by hot-pressing, 92
Shape
diamond, 114
crown correct
head, 246
profile, 246
EMB grit, 192
particle, 224
selection, 246
hard core drilling, 295
tool, 116
rough of profile on top face of silica blocks, step-cutting, 135
Shaped diamond tools, 303
radius forming of grinding wheels for thread grinding, 141
Shaping with diamond
profiling devices of grinding wheels, 141
tools
natural stone, 83, 84
rough of lime stone
bonded, 84
impregnated, 84
Sharpening
knife,
edges, 16
agate of beam balances with diamond compound, 16
shearing with diamond compound 16
machine with diamond wheels, 265
tools
diamond, worn, 115
tungsten carbide with diamond grinding wheels, 216
tipped
boring, 141, 231
turning, 229, 231
tungsten carbide tipped with diamond grinding wheels
drills, 231
milling cutters, 231

Shaving gear, 97
automatic line, 46
Shearing edges of knives sharpening with diamond compound, 16
Sheet glass grinding with diamond grinding wheels, 305
Sheeting of stainless steel rolling, 16
Sheets, fibreglass for electronic computers with electrical circuits, 27
Shells, lighter, 182
Shock absorbers, 200, 201, 202
damping force, 202
hydraulic, 299
Shoes
diamond on honing machines for internal bores, 11
lap
felt, 16
preformed metal, 16
wood
hard, 16
preformed, 16
soft, 16
Short delay blasting, 262
Sides of silica blocks producing with diamond impregnated slitting saw, 135
Signet rings, 171
Silica
blocks
flat base grinding, 135
machining with wheels with diamond grit plated peripheries, 135
sides producing with diamond impregnated slitting saw, 135
top face profile rough shaping by step-cutting, 135
fibres, gauging, 279
fused, cutting with diamond impregnated wheels, 135
liners, in hypersonic wind-tunnel machining with diamond tools, 135
Silicon
carbide
grit, machine testing, 149
lapping medium, 281
machining with diamond coated tools, 90
radiation absorbing elements, 262
slurry, 20
abrasive, 15
slicing with diamond
stylus for transistors, 112
wheels, 238
ultra-thin wafers, diamond sawing, 269
Simplifying plumbing jobs with diamond drilling rigs, 104
Single
-blade machine, 8
tandem arrangements, 9
bladed diamond saw, 287
crystals in graphite
blisters, 10
sleavage, steps, 10
crystal edge, 10
grain boundaries, 10
oxidation, 10
diamond
tools, 303
wheel dresser, 144
-point
diamond
dressing
corundum wheel, 307
tools
manufacturing, 92
re-setting, 92
glass cutter for cutting glass, 69
natural tools for machining plastics for electrical potentiometers, 57
dresser, 200
diamond, 231
spindle with multiple natural diamond dressing unit, 77
Sinking shaft, 99
Sintered
bronze bearings surface finish of interior surfaces, 217
metal
bonded diamond
industrial, 146, 147 ,148
tools, applications, 148
matrix
characteristics, 146
liquid phase during sintering, 146
macro-hardness tests, 148
microhardness exploration, 148
resistance
abrasion, 146
impact, 146
thermal conductivity, 146
thermal expansion, 146
tungsten carbide bar, cylindrical grinding with diamond wheel, 219
Sintering
liquid phase in sintered metal matrix, 146
temperature, 146
Site, diamond core drill probing strata below dam, 168
Size
controlled diamond grit in the manufacture of tungsten carbide dies, 127
diamond
edged disc saw for trimming face slabs, 145
selection, 246
stylus, 4
distribution pattern of diamond grit, 192
medium grinding spindle, 212
particle
comparitive of diamond and tungsten carbide, 39
diamond
EMB grit, 193
wheel, 39
range of EMB diamond grit, 221
Sizing, scientific of diamond particles, 13
Slab
concrete cutting machine, 76
facing trimming to size with diamond edged disc saw, 145
marble quarrying with diamond tools, 251
roofing sawing sections, 126
stone
cutting with frame saws fitted with diamond impregnated blades, 84
rough, cutting with diamond edged disc saw, 145
Sleeve
idler gear grinding with diamond dressed wheel, 47
stainless steel air bearings outer, grinding with corundum stones, 214
Slicing
cine-film with sapphire stylus, 112
diamond
saw for hard materials, 49
stylus
germanium for transistors, 112
silicon for transistors, 112
wheels
germanium, 238
glass tubing, 238
silicon, 238
microtome, 16
Slide ruler, air, 264
Slides, Vee-, 81
Slip form
paver, 282, 284
process, 282
Slitting saw, diamond impregnated for producing sides of silica blocks, 135
Slot
granite kerbs diamond sawing, 244
helical expanding cast iron laps used with diamond compound, 16
Slotting of glass, 70
Slow neutron activation analysis, 64
Slurry
abrasive, 20
aluminous oxide, 15
silicon carbide, 15
aluminous oxide for micro-specimen preparations, 12
carbide
boron, 20
silicon, 20
Small
automatic dust collector, 181
batches of components finishing with diamond compound on cast iron lapping wheels, 15
diamond impregnated grinding points making die inserts, 219
holes running through diegrinding with diamond impregnated tools, 219
parts, diamond hardness testing machine, 143
Smaller diamonds set in drilling crowns, 249
Smooth
blasting, 262
facetted octahedron diamond in drill crowns, 249
Smoothness
cutting action affected by heat formed by friction at high cutting speed, 68
electrode surfaces, 88
SND, 127
Soft
bonded diamond blade for sawing concrete, 244
wood shoes of lap, 16
Soles of leather trimming with diamond coated wheels, 43
Solid state devices, 189
pulsed, 189
Solids
covalently-bonded crystalline, electronic properties, 64
engineering, physics, 97
Sorting gravel samples equipment
heavy media, 120
processing, 120
Sources of petroleum searching with industrial diamond tools, 118
Span saw automatic, 8, 9
four diamond blades, 9
Special
glasses machining with diamond coated tools, 90
rig for diamond drilling of sample cores, 18
Specialised photographic equipment, highly, lenses, 109
Specially designed machines for diamond tools, 116
Specific gravity of pyrope, 170
Specifications of diamond saw blades, 235
Specimen
metallographic preparing on machine
grinding with abrasives
aluminium oxide, 155
diamond, 155
polishing with abrasives
aluminium oxide, 155
diamond, 155
micro- preparation with aluminium oxide slurries, 12
test, diamond paste for lapping, 232
tooth for microscope study, preparing with thin diamond blades, 19
Spectroscopy, arc- analysis, 64
Speed
cutting, 65
high
diamond tools when machining glassfibre reinforced plastic, 27
heat formed by friction affecting
cutting ability of tool, 68
increased quality of surface finish, 68
smoothness of cutting action, 68
diamond drilling, 96
high
honing machine, 181
production on machine for fine drilling of ultra-hard materials, 54
spindle for diamond core drilling, 61
hypersonic air, 133
revolution, dependence of torque on crown, 249
sawing of diamond sawing equipment, 198
spindle for roller bit drilling, 61
ultrasonic drilling of ceramics, 24
Spherical
generator for curving lens blanks, diamond impregnated, 106
joints, grinding with diamond impregnated grinding wheels, 281
Spindle
burnished finish, 217
grinding
medium size, 212
running on air bearings, 212, 213, 214
single, multiple natural diamond dressing unit, 77
speeds
high for diamond core drilling, 61

roller bit drilling, 61
tool, centreless grinding of hardened, 216
vibration free for mounting diamond wheel, 80
Spinnerets of ultra-hard materials, fine boring, 54
Splints for stylus, selected diamond, 112
Spring steel blades with diamond particles bonded to the cutting edge for cutting fibreglass, 28 29
Stained diamond, 33
Stainless steel
air bearings outer sleeves grinding with corundum stones, 214
sheeting, rolling, 16
Standardisation of diamond grinding wheels, 7
Standards
glass form master, 106
hardness testers, 155
line
measurements, 170
ruling, 170
diamond tracelets, 170
State devices, solid, 189
pulsed, 189
Steel
air bearings outer sleeve, stainless grinding with corundum stones, 214
blades, spring with diamond particles bonded to cutting edge for cutting fibreglass, 28, 29
laps for lapping tungsten carbide dies, 16
mating with a molybdenum surface for baulk rings, 46
nickel chrome, wind tunnel model, 133
nuclear reactor control rods, hard boron surface grinding with diamond dressed grinding wheels, 141
parts
diamond hardness tester for checking hardness, 139
mating of hardened, 16
production from high grade iron ore, 177
rolls, forged
hardened with diamond tools, dimensional tolerance, 139
surface finish, 139
milling with tungsten carbide tipped tools, 139
rolling
cold
ferrous metals, 139
non-ferrous metals, 139
paper, 139
plastics, 139
rubber, 139
hot
ferrous metals, 139
non-ferrous metals, 139
turning with tungsten carbide tipped tools, 139
works, diamond pyramid hardness, 139
saw
blade tool life, 81
diamond coated for sawing
alumina, 91
granite, 91
sheeting, rolling of stainless, 16
Steels
case hardened, hardness testing 232
tool
carbide plated
finishing with diamond lapping compounds, 275
grinding with diamond wheels, 275
hardness testing, 232
Step-
cutting rough shape of profile on top face of silica blocks, 135
imitating machine for testing floor materials, 205
Steps, cleavage in graphite single crystals, 10
Sticks, honing metal bonded diamond, 291
Stippling
diamond, 164
glassware, 164, 167
glass with metal bonded diamond grinding wheels, 307
Stishovite, 95
Stock removal, high
cast iron lap, 16
developing bonds of grinding wheels, 302
Stokes' law, 92
Stone
cutting
facade with diamond, 207
airport tower, 145
industrial diamonds for economics, 172
machine, 76
slabs with frame saw fitted with diamond impregnated blades, 84
industry, diamond
sawing, 172
tooling cuts costs, 172
natural
diamond tool
cutting, 84
shaping, 83, 84
saw for wet cutting, 129
rough cutting into slabs with diamond edged disc saw, 145
Stones
corundum for grinding stainless steel air bearings outer sleeves, 214
diamond impregnated honing, 231, 232
Stopcock
grinding with diamond impregnated tools, 280, 281
interchangeable, 281
Storage
computer capacities, 276
laps, 17
Store, Waffle-Iron, 277
magnetic thin film memory produced with diamond tools, 276, 277, 278
Strata
difficult in wireline core drilling, 153
probing with diamond core drill below dam site, 168
Stream of water flushing over grinding wheel and equipment for overcoming grinding-dust build-up, 59
Strength
diamond
crystals, mechanical, 249
cutting tools, great, 68
EMB grit, impact, 192, 193
test, 196
particle of granular abrasives, machine testing, 149
Stress
absence in diamond, 114
concrete pavement, 163
measurement by electrical resistance gauges, 168
measuring underground with diamond tools, 50
Strip, concrete
continuous, 282
test, cutting cores with diamond drill, 215
Strips, concrete marginal on motorways cutting with diamond blades, 253
Structure
carbon, 10
diamond, 117
crystal, 64
cut, 114
Indian, 33
internal of reinforced plastic, damage, 28
research of machine tool, 208
Studies of eclectrical insulation, surface preparation of electrodes, 85, 86, 87, 88, 89
Study
microscope
electron of graphite
dislocations, 10
imperfections, 10
tooth specimen prepared with thin diamond blades, 19
minerals, 170
Stylus
diamond, 2, 4, 110, 219, 237
geometry, 4
grinding with a metal bonded diamond impregnated wheel on a pointing machine, 112
selected splints, 112
size, 4
slicing for transistors
germanium, 112
silicon, 112
surface finish
measurements, 170
testing, 298
tipped to resist
abrasion, 170
wear, 170
polishing tips to mirror finish, 112
ruby engraving, 112
sapphire, 110
contact in profilometer, 69
slicing cine-film, 112
tungsten carbide, 4
Subsoil consistency in dam foundations, 168
Sulphides, 262
Supply of coolant with diamond barrel, 228
Surface
cathode, damage caused by impact of particles, 89
effects in vacuum, 89
electrode
effects, 86
polishing, 88
preparation for electrical insulation studies, 85, 86, 87, 88, 89
finish, 208
bearings, 216
interior surfaces of sintered bronze, 217
evaluation, 208
fine turning of plastics with diamond tools, 65, 66, 67, 68
hard core drilling diamonds, care, 297
hardened forged steel rolls with diamond tools, 139
high
lapping, 281
machinihg plastics with diamond tools, 68
increased quality affected by heat formed by friction at high cutting speed, 68
measurement, 170, 208
diamond styli, 170
quality depending on nose radius of cutting tool tip, 68
testing with diamond stylus, 298
grinders, 211
automatic for grinding granite plates with natural diamond grinding wheels, 199
grinding of hard boron steel nuclear reactor control rods with diamond dressed grinding wheels, 141
hard core drilling diamonds, polishing, 295
irregularities from poured ceilings removed with grinder, 77
laying equipment, concrete, 266
measuring instruments, 237
microgeometry of electrolytically polished, 88
molybdenum mating with steel for baulk rings, 46
planing of fibreglass reinforced plastic with diamond tools, 27
properties of carbon, 10
rebounding diamond points for hardness measuring of rolls, 141
roughness meter, 236
Surfaces,
bearing mirror-finishing, 216
electrode
polishing
electrolytic, 88
finish with diamond compound, 88
mechanical with diamond paste, 88
smoothness, 88
end of ruby rods, grinding, 186
metal
clean, 86
technically, 86
pure, 86
sintered bronze bearings interior, surface finish, 217
Susceptibility of graphite, paramagnetic, 10
Suspension of diamond
abrasive in oil for fine drilling ultra-hard materials, 54

particles, permanent, 12, 13
Sweden's production of tungsten carbide, 177
Swing-up diamond truing attachment, micrometer, 289
Synthesis of diamond, controlled, 234
Synthesizing diamond, 64
Synthetic
diamond
grit, 192
manufacturing
equipment, 157
process, 157
floor coverings, wear testing with diamond-head apparatus, 204, 205
pink sapphire, 186
Syringe-type dispenser for diamond compound, sealed, 15
System
computing, alumina grids grinding with diamond grit wheels, 37
high power in betatron atomic particle accelerators, grinding outside diameter on envelopes for power tubes with metal bonded diamond grit wheel
klystron, 37
magentron, 37
road heating, 244
water circulating in wireline core drilling, 151

T
T-bar for joint forming, 160
Tailings, installation of mining equipment for re-processing, 25
Tailor-made contact lenses, 254, 255, 256, 257
Tandem
arrangements of single-blade machines 9
sawing, 8
Tapered roller bearing producing with diamond tools, 190 191
Taps, automatic flute grinding machine, 289
Technically clean metal surfaces, 86
Technique
drilling
diamond, 246
samples of uranium
carbide, 24
oxide, 24
four-cycle grinding for multiplying saw blade life, 79, 80, 81, 82
rock blasting, 262
Technology, carbon, 10
Teepol as cleansing material for laps, 15
Television cameras, lenses, 109
Temperature
conditions of tools
carbide, 38
oxide, 38
graphite, 10
research, 208
sapphire, insulating properties at high 110
sintering, 146
Template truing device, diamond wheel dressing with built-in, 227
Test
abrasion under-water of floor coverings, 205
concrete strip cutting cores with diamond drill, 215
diamond
drill crown, 246
drilling field, 250
hardness measurements, 260
impact strenght of EMB diamond grit, 196
laboratory of hard core drilling diamonds, 297
macro-hardness of sintered metal matrix, 148
specimen lapping with diamond paste, 232
Tester, hardness
diamond, 144
checking hardness of steel parts, 139
indenter, 201
standard, 155
Testing
EMB natural diamond grit, 221, 222, 223, 224
gears, 97
hardness
bronze, 232
iron, 232
machine
diamond
foils, 143
small parts, 143
thin materials, 143
visual
Brinell, 142
diamond pyramid, 142
steels
case hardened, 232
tool, 232
machine
granular abrasives, 149
particle strength, 149
grits
abrasive, 149
aluminium oxide, 149
diamond, 149
silicon carbide, 149
step-imitating of floor coverings, 205
surface finish with diamond stylus, 298
wear apparatus
diamond-head
leather, 204
synthetic floor coverings, 204, 205
rubber, 205
Tetrachloride, carbon as cleansing material for laps, 15
Tetrakis-hexahedra form of diamond, 33
Theory, gear, 97
Thermal
conductivity
sintered metal matrix, 146
tungsten carbide, 39
expansion of sintered metal, 146
properties
carbon, 10
diamond, investigation, 185
Thermo-
electric power of graphite, 10
plastics fine turning
diamond tools, 65
hard alloy cutting tools, 65
Thicknessing of fibreglass reinforced plastic with diamond tools, 27
Thin
diamond blades for preparing tooth specimens for microscope study, 19
film memory store, Waffle-Iron magnetic producing with diamond tools, 276, 277, 278
glass cutting with diamonds, 305
materials, diamond hardness testing machine, 143
ultra- silicon wafers, diamond sawing, 259
wall diamond
bits
core, 294
creating openings in wall, 96
trepanning tool, 50
core drills water-cooled, 70
Thread
grinding,
gears, 97
machine, internal, 288
shaped diamond tools for radius forming of grinding wheels, 141
trapezoidal on diamond drill crowns, 247
Throw-away
tips, electrolytic grinding, 303
tungsten carbide lathe tools,
grinding with natural diamond wheels, 177
recommending diamond grinding, 179
Tie-tacks, 171
Tile, glazed
cutting machine, 76
sawing with EMB diamond grit, 223
Tiling, glazed drilling machine, 265
Time, setting of concrete, 160
Tiny ferrite ring cores, Microtoroids, 276
Tipped
diamond
boring tools, 217
sawing blades, 287
styli to resist
abrasion, 170
wear, 170
tool
contact lens lathe, 254
mounted on radiusing fixture, 254
tungsten carbide
boring bars, 291
drills sharpening with diamond grinding wheels, 231
milling cutters
resharpening on a diamond grinder, 139
sharpening with diamond grinding wheels, 231
saws diamond grinding, 80
tools
boring sharpening with diamond grinding wheels, 141, 231
lapping with diamond hand laps, 139
maintaining with diamond grinding wheels, 201
milling forged steel rolls, 139
resharpening with diamond impregnated grinding wheels, 139
turning
forged steel rolls, 139
resharpening on diamond grinder, 139
sharpening with diamond grinding wheels, 229, 231
Tips
cluster, five diamond for truing of grinding wheels, 103
cutting tool, surface finish quality depending in nose radius, 68
saw with diamond wheels
grinding, 81
polishing, 81
stylus polishing to mirror finish, 112
throwaway, electrolytic grinding, 303
tungsten carbide tool deep grinding with diamond grinding wheels, 177, 178, 179
Tolerance, dimensional on hardened forged steel rolls with diamond tools 139
Tool
carbide-plated steels
finishing with diamond lapping compounds, 275
grinding with diamond wheels, 275
cutting
ability affected by heat formed by friction at high cutting speed, 68
geometry, 65, 68
tip, surface finish quality depending on nose radius, 68
diamond
angle
clearance, 115
cutting, 115
rake, 115
factory, 125
industrial business, 236
polishing, 115
profile 116
research in manufacture, 225
shape, 116
use economy, 200
drill efficiency, 129
grinding machine, 144
electrolytic, 104
carbide with metal bonded diamond wheel, 142
peripheral type, 142
life of saw blade
steel, 81
tungsten carbide, 81
machine
design, 209
power losses, 38
report on industry, 18
research, 209
bearings, 208
control, 208
structures, 208
vibration
problem, 38
research, 208
milling for jewellery production, 103
spindles, centreless grinding of hardened, 216
steels, hardness testing, 232

wear
research, 208
tools
carbide, 38
oxide, 38
Tooling, diamond
cutting costs in stone industry, 172
precision in watchmaking, 113, 114, 115, 116, 117
revolutionising ancient craft, 74, 75
Tools
carbide
machining, 38
rough finishing of aluminium copying drums, 298
temperature conditions, 38
tool wear, 38
tungsten
cutting, 7
wet grinding with metal bonded diamond grinding wheel using kerosene as a grinding fluid, 67
lapping with diamond
impregnated resinoid wheel, 19
paste, 75
sharpening with diamond grinding wheels, 216
throwaway lathe
grinding with natural diamond wheels, 177
recommending diamond grinding, 179
tipped
boring sharpening with diamond grinding wheels, 141, 231
lapping with diamond hand laps, 139
maintaining with diamond grinding wheels, 201
milling forged steel rolls, 139
resharpening with diamond impregnated grinding wheels, 139
tips, deep grinding with diamond grinding wheels, 177, 178, 179
turning
forged steel rolls, 139
resharpening on diamond grinder, 139
sharpening with diamond grinding wheels, 229, 231
turning, 7
copper coated photogravure printing cylinder, 53
diamond, 144
abrasive wear, 148
accuracy, 46
advantages for machining of glass-fibre reinforced plastic, 27
aircraft industry, 132, 133, 134, 135
bonded
limestone
rough shaping, 84
sawing, 84
sintered metal, applications, 148
boring, polished, 144
building wind tunnels, 133
burnishing pens, 311
coated
high concentration of diamond grit, 91
machining
ablation plastics, 90
alumina, 90
metal ceramics, 90
silicon carbide, 90
special glasses, 90
cost, 229
cutting
edges, 115
multiple, 116
efficiency, 116
great strength, 68
high surface finish when machining plastics, 68
manufacture, 117
natural stone, 84
turning resins, 65
depth controlled cuts, 75
developments, 302, 303, 304
dressing
abrasive wheels, 216
centre hole grinder, 264
convex radius on large grinding wheel, 58, 59
production, 225
worn, salvaging diamond grit, 175
drilling fixing holes, 172
edge routing all forms of fibreglass reinforced plastics, 27, 29
electrometallic, 144
fibreglass
drilling, 27, 28
reinforced plastic
surface planing, 27
thicknessing, 27
trepanning hole, 28
routing, 27
sawing, 27
trimming, 27
finishing
aluminium copying drums, 298
copper coated photogravure printing cylinder, 53
precision, 229, 230, 231, 232
fundamental rules for use, 116
hardened forged steel rolls
dimensional tolerance, 139
surface finish, 139
impregnated
grinding
small holes running through die, 219
stopcock, 280, 281
limestone
rough shaping, 84
sawing, 84
natural for Amersil quartz
cutting, 233
finishing, 233
industrial searching for petroleum sources, 118
lathe, 76, 254, 303
manufacture, 226, 227
machines specially designed, 116
machining, 38
contact lens blanks, 257
glassfibre reinforced plastics
high cutting speed, 27
increased production capacity, 27
photogravure printing cylinders, 52, 53
silica liners in hypersonic wind tunnels, 135
manufacturing equipment, 225
measuring stress underground, 50
natural
facetted for turning gold watches 74
polished, 227
stone shaping, 83, 84
producing, 157
glass, 305, 306, 307
high precision models of wind tunnels, 133
tapered roller bearings, 190, 191
trimming grab, 261
Waffle-Iron magnetic thin film memory store, 276, 277, 278
quarrying marble slabs, 251
shaped, 303
radius forming of grinding wheels for thread grinding, 141
single, 303
-point
dressing
manufacturing, 92
re-setting, 92
natural machining plastics for electrical potentiometers, 57
tipped
boring, 217
contact lens lathe, 254
mounted on radiusing fixture, 254
truing, production, 225
turning
fine
acrylic plastics, 68
nylon, 68
plastics, surface finish, 65, 66, 67, 68
polyvinyl chloride, 68
thermo-plastics, 65
lens curvatures
concave, 257
convex, 257
polished, 144
wheel forming, 190
worn, sharpening, 115
fluted, 117
grinding machines with diamond grinding wheels, 302
hand, lapping with diamond impregnated metal bonded wheel, 133
hard alloy cutting for fine turning of thermo-plastic, 65
HSS for machining, 38
lathe lapping with diamond impregnated metal bonded wheel, 133
machine for gear
cutting, 97
finishing, 97
non-diamond abrasive finishing, 15
oxide
machining, 38
temperature conditions, 38
tool wear, 38
trepanning with thin walled diamond bit, 50
turning, regrinding copy, 179
Tooth specimens prepared with thin diamond blades for microscope study, 19
Top face profile of silica blocks, step-cutting rough shape, 135
Torque on crown depending on revolution speed, 249
Tower
airport stone facade cutting with diamonds, 145
church
propping, 271
reinforcement with concrete, 271
restoring with diamond drill, 270, 271, 272, 273, 274
drill rig, 241
Town centre, changing face 83, 84
Tracelets, diamond for ruling line standards, 170
Tracking satellites with laser equipment, 186, 187
Train, paving concrete, 266
pavement by conventional, 158
Transducers, 208
Transfer honing machine, automatic, 289, 291
Transistors, slicing with diamond stylus
germanium, 112
silicon, 112
Transmission ultraviolet of Indian diamonds, 33
Transport properties, electronic of graphite, 10
Transverse joints,9
contraction, concrete sawing with diamond sawing, 266, 268
expansion cutting with diamond impregnated saw blades, 159
sawing, 8
Trapezoidal
form diamond dresser for automatic wheel dressing, 288
threads in diamond drill crowns, 247
Treatment plant, ore, 99
Trenching, 99
machines, 38
Trepanning
hole in fibreglass reinforced plastic with diamond tools, 28
tool using thin walled diamond bit, 50
Trichlorethylene as cleansing material for laps, 15
Trimming
facing slabs to size with diamond edged disc saw, 145
fibreglass with diamond tools, 27
gold watch case on press, 74
grab produced with diamond tools, 261
leather soles with diamond coated wheels, 43
Truer, automatic diamond wheel, 265
Truing
device
diamond wheel dressing with built-in template, 227
profile
cam, 211
diamond roller, 211
pantograph, 211
diamond
attachment
grinding wheel, 128
micrometer swing-up, 289
tools production, 225
fixture, diamond wheel, 101
holder, 102
grinding wheels with five diamond

cluster tips, 103
Tube
apparatus, electron, 85
power for high power systems in betatron atomic particle accelerators, grinding envelopes for outside diameters with metal bonded diamond grit wheel
klystron, 37
magnetron, 37
vacuum, high-density alumina ceramic envelopes grinding with vitrified bonded diamond grinding wheels, 36, 37
xenon discharge
helical, 187
linear, 187
Tubing, glass slicing with diamond wheels, 238
Tubular diamond impregnated bronze wheel using mist lubrication grinding male hemisphere, 281
Tungstate, calcium with neodymium 186
Tungsten carbide
comparative particle size with diamond, 39
components
die with selected natural diamonds
hand finishing, 127
lapping, 127
machine grinding, 127
machining, 302
cones diamond grinding
gauging, 173
wheel for grinding, 175
dies
lapping, with laps
brass, 16
steel, 16
manufacture with diamond, 127
controlled grit size, 127
grinding
diamond
cup wheel, 40, 41
end gauges, for measuring rollers, 176
grinding wheels, 39, 40, 41, 42
metal bonded, 42
wheels
peripheral, 40
production, 40
using coolants, 42
lapping with diamond powder to correct out-of-roundness, 40
melting point, 39
rolls, lapping, 16
saw blade tool life, 81
sintered bar, cylindrical grinding with diamond wheel, 219
stylus, 4
Sweden's production, 177
thermal conductivity, 39
tipped
boring bars, 291
drills sharpened with diamond grinding wheels, 231
milling cutters
resharpening on diamond grinder, 139
sharpening with diamond grinding wheels, 231
saws, diamond grinding, 80
tools
boring sharpening with diamond grinding wheels, 141, 231
lapping with diamond hand laps, 139
maintaining with diamond grinding wheels, 201
milling forged steel rolls, 139
resharpening with diamond impregnated grinding wheel, 139
turning
forged steel rolls, 139
resharpening on diamond grinder, 139
sharpening with diamond grinding wheels, 229, 231
tools
cutting, 7
wet grinding with a metal bonded diamond grinding wheel using kerosene as a grinding fluid, 67
lapping with diamond
impregnated resinoid wheel, 19
paste, 75
sharpening with diamond grinding wheels, 216
throwaway lathe
grinding with natural diamond wheels, 177
recommending diamond grinding, 179
tips, deep grinding with diamond grinding wheels, 177, 178, 179
turning, 7
copper coated photogravure printing cylinder, 53
Tunnel
blasting, 262
hypersonic liners, 133
wind, 133
building with diamond tools, 133
hypersonic silica liners machining with diamond tools, 135
models
finishing with diamond paste, 133
aluminium, 133
high precision producing with diamond tools, 133
machining with diamond dressed grinding wheels, 133
metal, 133
nickel chrome steel, 133
Turbine head, air for mounting diamond impregnated grinding points, 219
Turning
copper coated photogravire printing cylinder with tungsten carbide tool, 53
diamond
knife, 308
lathes, 308
fine
diamond tools
acrylic plastic, 68
nylon, 68
plastics
surface finish, 65, 66, 67, 68
therm-, 65
polyvinyl chloride, 68
plastics, 65
thermo- with hard alloy cutting tools, 65
forged steel rolls with tungsten carbide tipped tools, 139
tools
copy, regrinding, 179
diamond
cutting for resins, 65
facetted natural of gold watch cases, 74
lens curvatures
concave, 257
convex, 257
polished, 144
tungsten carbide, 7
tipped
re-sharpening on diamond grinder, 139
sharpening with diamond grinding wheels, 229, 231
TV lens mounts with diamond, 308
TV lens mounts, diamond turning, 308
Twinning of crystals, mechanical, 234
Type
bond of grinding wheel
cutting efficiency, 39
durability, 39
heat generation, 39
emulsion grinding coolant, 70
gears, 97
analysis of failure, 97
peripheral metal bonded diamond wheel on electrolytic carbide tool grinding machine, 142
sealed syringe- dispenser for diamond compound, 15

U
Ubiquitous gear, 97
Ultra
fine copper wire drawing with diamond dies, 76
hard materials fine
boring
filters, 54
injection nozzles, 54
spinnerets, 54
drilling, 54, 55, 56
diamond abrasive suspended in oil, 54
machines, 54
high production speed, 54
repeatability, 54
high pressures, 93, 94, 95
thin silicon wafers, diamond sawing, 269
Ultrasonic
amplifiers, 234
drilling, of ceramics, 20, 21 ,22, 23, 24
diamond probes, 24
penetration rate, 24
speed, 24
Ultraviolet
transmission of Indian diamonds, 33
work using optically polished sapphire windows, 110
Underground measuring of stress with diamond tools, 50
Underwater
blasting, 262
abrasion test of floor coverings, 205
diamonds on sea floor
dredging, 120
drilling, 120
Uniform bonding material of diamond grinding wheel, 80
Unit
hydraulic
control, 22
controlled feed, 22
multiple natural diamond dressing on single spindle, 77
plastic components in record
changer, 219
player, 219
wheelhead infeed arrangement, 265
Uranium, techniques for drilling samples of
carbide, 24
oxide, 24
Usage, industrial diamond, 131
Use
coolants when grinding tungsten carbide, 42
diamond
compounds, general, 17
economical, 40
hard core drilling, proper, 297
tool
economy, 200
fundamental rules, 116
windows, 185
laser, local correction of ruby rods, 186, 187, 188, 189
sapphire
electronics, 110
windows optically polished for work
infrared, 110
ultraviolet, 110
Using
diamond
compound
cleaning of workpiece, 17
correct amount, 17
impregnated wheel metal bonded for grinding diamond stylus on a pointing machine, 112
lubricating fluid, 17
indenter on hardness tester, 201
industrial, economics for cutting
marble, 172
stone, 172
polished points on glass engraving machine, 49
probe, hollow in drilling procedure 22
tool
tipped for contact lens lathe, 254
trepanning of thin walled bit, 50
wheel on lens rounding machine, 310
kerosene as grinding fluid for wet grinding of tungsten carbide cutting tools with metal bonded diamond grinding wheel, 67
water coolant for diamond drilling, 123

V
Vacuum
chuck for holding lens blank in position, 106
chucking equipment

flat grinding with diamond impregnated wheels, 142
holding
carbide, 142
ceramics, 142
ferrites, 142
glass, 142
surface effects, 89
tubes, high density alumina ceramic envelopes, grinding with diamond
grinding wheel, bonded
metal, 36, 37
vitrified, 36, 37
Valve components, machining ceramic, 302
Vee
block production, 180
slides, 81
Vertical portable diamond drill for core sampling, 215
Vibrating diamond probe, 20
Vibration
boring holes in masonry with diamond drills, 273
-free spindle on which to mount diamond wheel, 80
ground, 262
machine tool
problem, 38
research, 208
Visual hardness testing machine
Brinell, 142
diamond pyramid, 142
Vitrified bonded diamond grinding wheel grinding high-density alumina ceramic envelopes for vacuum tubes, 36, 37

W
Wafers, diamond sawing of ultra-thin silicon, 269
Waffle-Iron store, 277
magnetic thin film memory produced with diamond tools, 276, 277, 278
Wall
charts, 131
cleaning particles form borehole, 249
create openings with thin-walled diamond bits, 96
glass
enamelled, 69
hardened, 69
hydraulic concrete saw, 155
Walled, thin- diamond
bits
core, 294
creating openings in wall, 96
trepanning tool, 50
core drills, water-cooled, 70
Washing
machines with dial plates of glass
enamelled, 69
hardened, 69
rotary pans, 99
Watch
bracelets, gold, 74, 75
cases, 113, 171, 182
gold, 74, 75
diamond
natural
point for engraving patterns, 75
tool faceted for turning, 74
polishing, 206
press
forming, 74
trimming, 74
dials, 113
glasses, 113
hands, 113
jewels drilling, 54
links engraving patterns with natural diamond points, 75
Watchmaking with diamond precision tooling, 113, 114, 115, 116, 117
Water
circulating system in wireline core drilling, 151
coolant used in diamond drilling produces no dust, 123
-cooled thin-walled diamond core drills, 70
flushing stream over grinding wheel and equipment overcoming grinding-dust build-up, 59
loading, 168
pump for wireline core drilling, 151
Wear
abrasive of diamond tools, 148
carbon, 10
problem on precision ball gauging cones, 173, 174, 175, 176
resistance
diamond tipped styli, 170
sapphire, 110
resistant diamond drill crowns with rhombododecahedrons, 249
testing apparatus
diamond-head
leather, 204
synthetic floor covering, 204, 205
rubber, 205
tool
research, 208
tools
carbide, 38
oxide, 38
Wearing bond, hard of diamond blade for sawing concrete, 244
Wedding rings, 171
Wedging method, 301
Weep holes, diamond drilling, 124
Weight of diamond, 114
Welding, micro- with laser
miniature electronic parts, 187
precision instruments, 187
Well
deep drilling industries, 61
diamond drilling
oil, 246, 247, 248, 249, 250
gas, 246, 247, 248, 249, 250
roller bit drilling for 'wildcat', 61
Wet
cutting with saw
breeze block, 129
ceramics, 129
firebrick, 129
glass, 129
natural stone, 129
refractories, 129
reinforced concrete, 29
grinding of tungsten carbide cutting tools with a metal bonded diamond grinding wheel using kerosene as a grinding fluid, 67
Wheels
abrasive, diamond dressing tools, 216
corondum, dressing
concave edged diamond wheel, 307
single-point, diamond, 307
cup
metal bonded impregnated with natural diamonds, 179
resin bonded melting point, 39
copper impregnated with diamond
grit for glass engraving, 164, 167
powder for finish grinding of agate products, 110
diamond, 144
bonded
metal, 225
electrolytic carbide tool grinding machine, 142
peripheral type, 142
grinding ferrite cup centre post, 72
pencil edging, 70
resin, 143, 225
coated for trimming leather soles, 43
cost, 82
cup
chamfering of glass, 70
grinding tungsten carbide, 40, 41
cutting
ceramics, 238
glass, 238
inside, 238
quartz, 238
sapphire, 238
drag, 91
dressed for grinding
idler gear sleeve, 47
piston connecting rods, 46
dresser, 303
abrasive, 146
multi-point, 144
off-hand grinder, 77
single, 144
dressing, 19
attachment, 289
automatic, 228
built-in template truing devices, 227
concave edged with corundum wheel, 307
electrolytically plated, 144
forming tools, 190
grinding, 289
bevelling mirrors, 70
bonded
metal
grinding
high-density alumina ceramic envelopes for vacuum tubes, 36, 37
internal diameter of alumina cylinders, 37
tungsten carbide, 42
tools, wet using kerosene as grinding fluid, 67
glass
edging, 69
engraving, 307
stippling, 307
resin, 7
impregnated, 275
vitrified for grinding highdensity alumina ceramic envelopes for vacuum tubes, 36, 37
bonding material
clean, 80
uniform, 80
carbide-plated tool steels, 275
centriless of carbide cylinders, 40
cutting
fast, 80
free, 80
cylindrical of sintered tungsten carbide bar, 219
dressed, 141
machining wind tunnel models, 133
dressing
automatic with diamond dresser of trapezoidal form, 288
elimination, 70
grinding
convexing edges, 305
deep of tungsten carbide tool tips, 177, 178, 179
machines for tool, 302
mirrors, 70
ruby rods, 189
saw tips, 81
sheet glass, 305
surface of hard boron steel nuclear reactor control rods, 141
tungsten carbide, 39, 40, 41, 42
cones, 175
halving cost, 7
impregnated
edging lenses
high precision, 105
metal bonded, 106
grinding spherical joints, 281
resharpening tungsten carbide tipped tools, 139
long life, 70
maintaining tungsten carbide tipped tools, 201
natural for grinding granite plates on automatic surface grinder, 199
perfect balance, 80
peripheral 175
tungsten carbide, 40
pressed powdered ferrite cups, 72
production of tungsten carbide, 40
profile, 302
rough of marble, 312
sharpening tungsten carbide
tipped
drills, 231
milling cutters, 231
tools
boring, 141, 231
turning, 229, 231
tools, 216
standardisation, 7
grit
grinding alumina grids for computing systems, 37
metal bonded for grinding outside diameters on envelopes for power tubes for high power systems in betatron atomic particle accelerators

klystron, 37
magnetron, 37
plated peripheries for machining silica blocks, 135
impregnated
bonded
metal, 144
grinding diamond stylus on pointing machine, 112
lapping tools
hand, 133
lathe, 133
resin, 144
lapping tungsten carbide tools, 19
manufacturing, 175
bronze for grinding hemisphere
annular female, 281
tubular for male, 281
cup, 310
cutting fused silica, 133
flat grinding of vacuum chucking equipment, 142
polishing marble, 312
knife sharpening machine, 265
lens rounding machine, 309
mounting on vibration-free spindle, 80
natural for grinding tungsten carbide throwaway lathe tools, 177
particle size, 39
polishing saw tips, 81
rough hogging cut of glassfibre reinforced plastic, 27
slicing
germanium, 238
glass tubing, 238
silicon, 238
truer, automatic, 265
truing fixture, 101
holder, 102
-engraving, 164
forming device
peripheral, 226
multi-ribbed, 288
gear- case hardened hardness measurements, 259
grinding
bond
development for high stock removal, 302
type
durability, 39
cutting efficiency, 39
heat generation, 39
curve
concave, 101
convex, 101
developments, 302
diamond
dressing, 190
truing attachment, 128
dimensions, 18
segments, 18
flushing with water to overcome grinding dust build-up, 59
formed with diamond, 289
large, dressing convex radius with diamond tool, 58, 59
profiling attachment, 219
radial dressing, 101, 102
shaping with diamond
profiling device, 141
tools for radius forming for thread grinding, 141
truing with five diamond cluster tips, 103
lapping for finishing small batches of components with diamond compound on cast iron, 15
radiusing, dressing with diamond, 176
Wheelhead unit, infeed arrangement, 265
White diamond, 33
Wide joints, diamond sawing, 9
'Wildcat' wells, roller bit drilling, 61
Wind tunnel, 133
diamond tools
building, 133
machining silica liners in hypersonic 135
models
diamond
dressed grinding wheels for machining, 133
paste for finishing, 133
aluminium, 133
tools producing high precision, 133
metal, 133
nickel chrome, 133
Windows
alumina, 262
diamond use, 185
motor car, glass
enamelled, 69
hardened, 69
sapphire optically polished for use in work
infra-red, 110
ultra-violet, 110
Wire
copper, ultra-fine drawing with diamond dies, 76
fine diameters gauging with Optical/electronic comparator, 279
mesh reinforced concrete, 8
Wireline core drilling, 150, 151, 152, 153
difficult strata, 153
pump design, 153
water
circulating system, 151
pump, 151
Wolffglasses, 164
Wood lap, 17
densified for removing abrasive marks with diamond compound, 15
shoes
hard, 16
preformed, 16
soft, 16
Work
colour, 2
hoding attachment, 75
Optically polished sapphire windows used
infra-red, 110
ultra-violet, 110
rolls of forged steel, diamond pyramid hardness, 139
Working of sapphire with diamond
grit, 110
powder, 110
Workpiece
automatic gauging, 228
cleaning when using diamond compound, 17
Worn diamond tools
dressing, salvaging diamond grit, 175
sharpening, 115
Wow, 216

X
X-ray
apparatus, 85
camera with diamond anvils for photographing materials under pressure, 94
Xenon discharge tube
helical, 187
linear, 187

Y
Yakutian diamonds, 249
Yellow diamonds, 33

Z
Zirconium oxide powder for final polishing of lenses, 106
Zoom lens mounts, 308

AUTHORS' INDEX

Balandin, P. S.
see **Kuvykin, S. I.**
Bell, G. R.
Sintered metals bond industrial diamonds, 146
Büttner, A.
Diamond tool developments at the Hanover Machine Tool Exhibition, 302
Burls, J.
Diamonds at Farnborough, 132

Dyer, H. B.
EMB natural diamonds, I, 192; II, 221

Evans, P.
Agate products: precision specialists, 110
Evans, P.
Dutch firm thrives on shock treatment, 200
Evans, P.
Hoffmanns solve wear problem on precision ball gauging cones, 173
Evans, P.
Machining a fine finish in heavy engineering, 139
Evans, P.
New four-cycle grinding technique multiplies saw blade life, 79

Fèvre, J.
How diamond saws came to Comblanchien, 285
Finnigan, G.
Deep grinding tungsten carbide tool tips at Sandvikens Jernverk, 177
Finnigan, G.
French glass company overcomes production problems, 69
Flook, D.
Local correction of ruby rods for laser use, 186

Glaister, R. M.
The Waffle-Iron magnetic film memory store, 276
Grantham, D. R.
The diamond deposits of Panna, Central India, 30

Hawley , D. R., Zaky, A.A., Zein Eldine, M. E.
Surface preparation of electrodes for electrical insulation studies, 85

Kagarmanov, N. F.,
see **Kuvykin, S. I.**
Kelley, D.
Diamonds in watchmaking, 113
Kuvykin, S. I., Kagarmanov, N. F., Balandin, P. S.
Diamond drilling of oil and gas wells, 246

Legge, P.
Ultrasonic drilling of ceramics, 20
Logn, O., Vanero, J.
Improved Hall-Row wedging method incorporates Rawlbolt, 301

Marles, T.
Contact lenses are tailor-made, 254
Marles, T.
Garrard wage war on wow, 216
Marles, T.
Hillman Imp Cylinder liners are diamond honed, 291
Marles, T.
M6. Roadmaking records tumble on new motorway, 266

Nicolas, H. E.
The advantages of saw joint in concrete paving, 160

Otterloo, H. J.
Hardness measurement in the case hardening process, 258

Paris, L.
see **Zilles, J.**

Riessauw, F. G.
Restoring the tower of St. Nicholas, Ghent, 269
Roy, A. R.
Hard core drilling diamond, 295

Saville, P. A.
Machining of glass fibre reinforced plastics, 26
Scheyer, G.
Grinding tungsten carbide, 39
Stuckey, N.
Diamond tooling revolutionises an ancient craft, 74
Stuckey, N.
Diamond tools a feature of new lathe factory, 226
Stuckey, N.
Measuring stresses underground, 50
Stuckey, N.
Riding high on tapered rollers, 190
Stuckey, N.
Stopcock grinding time cut by half
Stuckey, N.
TV lens mounts are diamond turned, 308
Swan, R. J.
Production of high quality surfaces, 11

Tsukerman, L. T.
Surface finish in the fine turning of plastics, 65

Vanero, J.
see **Logn, O.**
Veldhuizen, E. C.
The glass decorators of Holland, 164
Veldhuizen, E. C.
Glassmaking today at F. van Tetterode, 305

Waller, J.
Dressing a convex radius on a large grinding wheel, 58
Waller, J.
Protecting a diamond dresser from grinding dust, 119
Waller, J.
Radial dressing a grinding wheel, 101

Zaky, A. A.
see **Hawley, R**
Zein Eldine, M. E.
see **Hawley, R.**
Zilles, J., Paris, L.
Wear testing synthetic floor coverings with diamond head apparatus, 204

MISCELLANEOUS ARTICLES

Accent on craftsmanship at Gentry carbide, 127
Art and craft in ceromonial jewellery, 203
Australian portable diamond drill, 126
Automatic machines grind Western Electic ferrites, 72

Book reviews, 10, 38, 64, 97, 156, 170, 208, 234, 262
British form imports American tool process, 90
Bumpcutter walks on M6 tightrope, 253

The changing face of Rotterdam town centre, 83
Concrete cutting display staged in Belgium, 282
Concrete floor removed without debris, 235
Concrete saws and drill score Russian success, 294
Construction starts on new Omark factory, 252
Core drilling proves safety on new dam designs, 168
Core drills probe the Yorkshire coalfields, 241
Core recovery and inspection in Bahrein, 118
Cores cut from concrete strip, 215
CSE saw joints for Essex express way, 158
Cutting and finishing Amersil quartz, 233

DAF choose diamonds for precision finish, 229
Dallmeyer lenses are diamond ground, 106
A deep cut down under, 309
Diamonds aid production of world's biggest trimming grab, 261
Diamonds cut stone facade for Belgian Airport tower, 145
Diamonds drill 150-year old granite foundations, 96
Diamonds bring precision to print runs of millions, 52
Diamonds put the polish on Benrus watch cases, 206

An elegant face for the Mont des Arts, 207

Facets of industry, 18, 48, 76, 103, 128, 154, 180, 210, 236, 264, 288, 310
Fine drilling ultrahard materials, 54
First Scottish diamond tool company launched, 92
Flagstone production multiplied by new French saws, 220

Generally speaking, 1, 25, 51, 78, 105, 131, 157, 185, 211, 239, 265, 289
Granite kerbs sawn in situ, 244
Grinding carbide-plated tool steel, 275

Highway over the Oosterschelde, 299

In the picture with diamond, 2

Jewellery patterns cut automatically, 171
Job analysis halves cost of diamond wheels, 6

Keep in step with diamonds, 43

Machining plastics for electrical potentiometers, 57

New automatic diamond millers, 182
New automatic surface grinder from France, 199
New centreless grinding machine is fully automatic, 228
New elegance for concrete panels, 44
New joint set-up record speeds, 8
New machine tests granular abrasives, 149

Optical/electronic comparator gauges fine wire diameters, 279

Polishing marble with diamond impregnated wheel, 312
Precision dressing for B.M.C. best sellers, 46
Precision machines for exotic materials, 238
Preview: International Machine Tool Exhibition Olympia, 142
Prospecting ship searches South West African sea bed, 120
Prospecting for diamonds on desolate Namaqualand coast, 98

Ringway runway sawn before dawn, 197
Rossco open new diamond tool factory, 225
Rotary drilling through light formations, 60

Sewer culverts diamond drilled to overcome detergent foaming, 136
Spanish interest in diamond sawing, 300
Stonemasons cut costs with diamond saws, 172

Tin shortage leads to wire line core drilling in Cornish mines, 150

Ultra high pressures: a new dimension in science, 93
Ultra-thin silicon wafers for impregnated wafers, 269

A versatile new engraver, 263

Westwind grinding spindles run on air, 212
What Manchester thinks today, 123
World's largest marble slab quarried in Italy, 251

Xerox drums finished to 4 microinches, 298

NAME INDEX

A
ASTME
see **American Society of Tool and Manufacturing Engineers**

Adamant Research Laboratory, 157
Albert, King of the Belgians, 207
Alexandria, University of, 85
Allen, A. H., 252

All-Union Conference on Crystal Growth, 2nd, 234
American Carbon Committee, 97
American Society of Mechanical

Engineers, 208
American Society of Tool & Manufacturing Engineers, 180
National Technical Publications Committee, 38
Anciens Etablissements Edmond Chevallier, 199
Anderson, B. W., 51

B
BSI
see British Standards Institution
Baird, D. C., 97
Baker, C., 10
Balandin, P. S., 246, 250
Baron, R., 10
Bascom, W., 120
Beatrix of the Netherlands, Princess, 167
Bell, G. R., 146
Belling, N. G., 149
Berlage, H. P., 167
Berman, R., 185
Birmingham University, 209
Blanckensee, S., 171
Bobeck, A. H., 277, 278
Boley, G., 65
Bollmann, W., 10
Bowden, F. P., 185
Bradley, J. E. S., 234
Bradley, R. S., 38
Bray, J. 156
Bressers, A., 269, 270, 274
Breuer, M., 83
Bridge, H., 10
British Ceramic Research Association, 262
British Non-Ferrous Metals Research Association, 279
British Radio Research Station, 187
British Standards Institution, 18, 76, 155, 170, 180, 237
Brunton, J., 185
Büttner, A., 302
Burls, J., 211

C
Caldwell, T., 92
California University, 156
Carnegie Institute of Technology, 208
Casford, H. J., 278
Champion, F. C., 64
Churchill, Sir Winston, 167
Clarke, F. J. P., 97
Clausen, H., 234
Clavell, Recoder, 300
Cody, Colonel, 133
College of Advanced Technology, 131
College of Aeronautics, Cranfield, 170
Conference on Crystal Growth, 234
Cotty, W. F., 64
Craik, R. L., 89
Cranberg, L., 89
Curtis, D., 281

D
Dana, F.S., 170
Dawihl, W., 302, 304
Day, F. H., 64
de Fernig, Count Moens, 282
de Vries, J., 225
Dean, P. J., 185
Dembo, V., 262
Diamond, Pearl and Precious Stone Laboratory, London Chamber of Commerce, 51
Diamond Research Laboratory, 35 149, 150, 152, 157, 192, 221, 289, 295, 296
Dinglinger, E., 302, 304
Dudley, D. W., 97
Dyer, H. B., 192. 221

E
Echegary, 300
Ecole Nationale Supérieure de l' Armament, 209
Elizabeth of England, Queen 167
Evans, P., 80, 110, 173, 200
Evans, T., 10, 156

F
Fèvre, J., 285
Financial Times, 51
Finnigan, G., 69, 177, 210, 294
First International Congress on Diamonds in Industry, 113, 114
Flook, D., 186
Fowler, 112
Franklin, J., 30, 35
Fuller, 173, 175

G
Gee, J. A., 35
General Post Office, 190
Gentry, R. S., 127
Geological Survey, British Guiana, 30
Geological Survey of India, 31, 35
Geological Survey of Tanganyika Territory, 30
Ghent University, 269, 270
Glaister, R. M., 276
Goodman, C. H. L., 94
Grandjean, A., 113, 114
Grantham, D. R., 25, 30, 170
Gray, B. S., 10
Greene, P., 35, 211
Greenwood, F., 164, 167

H
Hackett, B. A., 90
Hadfields, Ltd., 138, 139, 140
Hanover University, 302
Hawley, R., 85, 89
Hell, R., 2
Hennig, G. R., 10
Hickling, G. H., 89
Hooft, P. C., 164
Horton, E., 120
House, H., 89
Hungarian Leather Research Institute, 204
Hurlbut, C. S., 170
Hutchison, H., 262
Hutchison, T. S., 97
Hyman, E., 98

I
I.D.I.B.
see Industrial Diamond Information Bureau
ISO
see International Organisation for Standardisation
Imperial College, 30
Imperial College of Science and Technology, 168
Indian Academy of Sciences, 51
Industrial Diamond Association, 51
Industrial Diamond Abstracts, 78
Industrial Diamond Information Bureau, 1, 35, 78, 131, 149, 157, 210, 265, 282, 284, 289, 294, 300
Institution of Production Engineers, 208
Instituut für Härterei Techniek, 259
International Institution for Production Engineers, 208
International Inventors Exhibition, 92
International Machine Tool Exhibition, 142
International Organisation for Standardisation (ISO), 18

J
Joffré, A. F., 234
Johnson, P., 120

K
Kagarmanov, N. F., 246, 250
Kelley, D., 113
Kelly, B. T., 10
Kelvin, Lord, 170
Kihlström, B., 262
King's College, London, 185
Klassen-Neklyudova, M. V., 234
Klein, C. A., 10
Koenigsberger, F., 38 208, 209
Kruschev, N., 294
Kulkarni, M. G., 34
Kuvykin, S. I., 246, 250

L
Laboratory of Mechanical Properties of Crystals, 234
Langefors, V., 262
Lees, J., 94
Legge, P., 20
Lightowlers, E. C., 185
Logn, O., 301
London Chamber of Commerce, Diamond Pearl & Precious Stones Laboratory, 51
Lonsdale, K., 234
Louis XIV, 287
Louis XV, 269
Loxham, 208
Loy, B., 89

M
MTDR
see Machine Tool Design and Research
McArthur, J. F., 278
Machine Tool Design & Research Conference, 208, 209
Manchester College of Science and Technology, 38, 209
Marles, T., 216, 254, 266, 291
Mathur, S. M., 31, 33, 35
Mayer, H. O. A., 38
Merchant, M. E., 209
Midhage, J., 80
Miller, L., 170
Mitchell, E. W. J., 10, 185
Mont des Arts, Brussels, 207
Morgan, D. D., 209
Moscow Exhibition of Building and Roadmaking Machinery and Equipment for Mechanization of Construction and Erection, 294
Mrozowski, S., 97

N
NATO, 229, 230
NPL
see National Physical Laboratory
National Aeronautics and Space Administration, 187
National Coal Board, 156, 239, 241, 242, 243
National Engineering Laboratory, 94, 180, 185, 186, 187, 188, 189, 264
National Technical Publications Committee, American Society of Tool and Manufacturing Engineers, 38
Nicolas, H. E., 160, 162
North West Kent College of Technology, 58
Nutrition Institute, Giessen, 19

O
Opitz, H., 208, 304
Oppenheimer, H. F., 265
Orowan, E., 156
Otterloo, H. J., 258

P
Paris, L., 204
Peklenik, J., 208
Peters, P., 274
Phaal, C., 10
Podolsky, E. W., 171
Podolsky, P., 171
Polanyi, T. G., 156
Poole, L. J., 278
Popper, P., 262
Potapov, Yu. F., 250
Prague Research Institute for Machine Tools and Machining, 209
Premier Mine, 25
Princeton University, 37
Pugh, L. H., 208

Q
'Queen Mary', 58

R
Raman, Sir C. V., 33, 35
Reading University, 10, 156, 185
Rembrandt, 164
Research Institute for Machine Tools and Machining, Prague, 209
Revijn, M. C., 274
Reynolds, W. N., 10
Riessauw, F. G., 269, 270
Ringway Airport, Manchester, 197
Ross, G., 225
Roy, A. R., 289, 295
Royal Aircraft Establishment, Farnborough, 131, 133, 134, 135
Royal Commission of Monuments and Sites (Belgian), 271
Royal Library, Brussels, 207

Royal School of Mines, 156
Ruijmsgaart, A., 251
Ruymgaart, A., 84

S
Saville, P. A., 26
Scarr, A. J. T., 170
Scheyer, G., 39
Schmidt, A. O., 38
Schwartz, K. E., 304
Seal, M., 33, 35
Sheftal, N. N., 234
Shipley, J. E., 234
Shubnikov, A. V., 234
Simmons, J. H. W., 10
Siminov, V. V., 250
Singer, L. S., 10
Sinor, K. P., 31, 35
Slonczewski, J. C., 10
Smith, D., 120
Smith, J. L., 278
Smith, N. R., 51
Soule, D. E., 10
Sprague, R., 10
Stade, G., 304
Stora, 300
Strauss, jun, H., 265
Stuckey, N., 50, 74, 190, 226, 280, 308
Swan, R. J., 11
Sweeney, G., 208

T
Taylor, 156
Technische Hogeschool of Delft, 259
Tesselschade, M., 164
Thomas, G., 156
Times, 265
Tindale, J., 97
Tobias, S. A., 208, 209
Todd, W. L., 252
Tolansky, S., 89
Trigger, K. J., 38
Tropper, H., 89
Tsukerman, L. T., 51, 65, 66

U
UFNII
see **Ufa Scientific Research Institute**
US National Bureau of Standards, 185
USSR Academy of Sciences, 234
USSR Institute of Crystallography, 234
Ubbelohde, A. R., 10
Ufa Scientific Research Institute (UFNII), 246, 248
United Kingdom Atomic Energy Authority, 155
Research Group, 20
University of Alexandria, 85
University of Birmingham, 209
University of California, 156
University of Ghent, 269, 270
University of Hanover, 302
University of Princeton, 37
University of Reading, 10, 156, 185

V
Van den Broek, J., 307
Van Heemskerk, W. J., 164
Van Moppes, L. M., 133
Van Valkenburg, A., 185
Vanero, J., 301
Veldhuizen, E. C., 164, 305
Victoria and Albert Museum, 164
Visscher, Anna Roemer, 164, 167
Vredenburg, E., 33, 35

W
Waller, J., 58, 101, 119
Washburn, J., 156
Weiss, P. R., 10
West, T. F., 64
Williamson, G. K., 10
Willis, R., 208
Wirtschafts u Verkehrsministerium Nordrhein-Westfalen, 304
Wolff, D., 164
Worshipful Company of Clockmakers, 203
Wright, F. L., 167

Y
Yoshikawa, H., 208

Z
Zacky, A. A., 85, 89
Zadkine, O., 83, 84
Zein Eldine, M. E., 85, 89
Zilles, J., 204

GEOGRAPHICAL INDEX

A
Aachen (W Germany), 282
Africa, 30, 98, 99, 100, 170
Alexandria (Egypt), 85
Alabama (USA), 265
Amsterdam, (Netherlands), 167, 225, 229, 305, 307
Angola, 170
Ann Arbor (Mich, USA), 298
Antwerp (Belgium), 236, 282
Arabian Gulf, 118
Australia, 126, 309

B
Baghani River (India), 33
Bahrein, 118
Barnet (Herts, UK), 264
Bashkiriya (USSR), 246, 250
Basingstoke, (Hants, UK), 53
Basle (Switzerland), 104
Beaune (France), 285, 287
Bedfordshire (UK), 289
Beech Grove (Indiana, USA), 127
Belgium, 92, 145, 207, 236, 271, 274, 282, 284
Belvedere (Kent, UK), 137
Biggleswade (Beds, UK), 289
Birmingham (Alabama, USA), 265
Birmingham (UK), 180, 182, 228
Bobigny (France), 69, 70
British Columbia, Canada, 155
Brussels, Belgium, 92, 207, 271
Buckinghamshire (UK), 74, 154, 186

C
California (USA), 8, 103, 163, 269, 275, 310, 311, 312
Canada, 44, 45, 150, 155, 252
Cape Town (S Africa), 120
Carrara, (Italy), 251
Castleford (Yorks, UK), 241
Chelmsford (Essex, UK), 173
Chertsey (Surrey, UK), 159, 244
Chesham (Bucks, UK), 74
Cheshire (UK), 90, 264
Chicago (Ill, USA), 7, 210
Chiswick (London, UK), 244
Clacton-on-sea (Essex, UK), 158, 172
Colchester (Essex, UK), 226, 227
Columbus (Ohio, USA), 265
Comblanchien (France), 220, 285, 287
Connecticut (USA), 206
Corgolain (France), 285
Cornwall (UK), 150, 168
Coventry (UK), 128
Côte d'Or (France), 207, 285
Crawley (Sussex, UK), 154

D
Denmark, 236
Dea Moines (Iowa, USA), 235
Detroit (Mich, USA), 19
District of Columbia (USA), 96
Doncaster (Yorks, UK), 241
Dorset (UK), 212
Düdingen (Switzerland), 113
Dusten (Northants, UK), 190

E
East Kilbride (Scotland, UK), 94
Egypt, 85
El Segundo (Calif, USA), 269
England, 11, 19
Erkelenz (W Germany), 60, 61
Essex (UK), 93, 158, 172, 173, 181, 226, 227, 276
Esslingen (W Germany), 65
Eure (France), 199

F
Farnborough (Hants, UK), 133
France, 69, 70, 145, 160, 207, 208, 209, 220, 274, 285, 287, 300
Frenchtown (NJ, USA), 37

G
Geneva, (Switzerland), 54, 170
Germany, Western, 2, 19, 60, 61, 65, 109, 254, 282, 302, 303, 304
Ghana, 30, 170
Ghent (Belgium), 271, 274
Giessen (W Germany), 19
Glendale (Calif, USA), 103
Grand Forks (N Dakota, USA), 9
Guelph (Ontario, Canada), 252

H
Halmstad (Sweden), 211
Hamburg (W Germany), 108
Hampshire (UK), 53, 133
Hanover (W Germany), 302, 303, 304
Harlow (Essex, UK), 93, 276
Hasselt (Belgium), 282, 284
Hemel Hemstead (Herts, UK), 254
Hertfordshire (UK), 53, 254, 264, 278
Holland *see* Netherlands
Horley (Surrey, UK), 49
Hungary, 204

I
Illinois (USA), 7, 120
India, 25, 30, 33, 34, 35
Indiana (USA), 127
Ingelmunster (Belgium), 271
Iowa (USA), 235
Ipswich (Suffolk, UK), 49
Italy, 103, 251, 261,

J
Janesville(Wisconsin, USA), 311
Johannesburg (S Africa), 192, 221, 295

K
Kansas City (USA), 77, 310
Kenilworth (UK), 19
Kent (UK), 137
Kiel (W Germany), 2
Kimberley (S Africa), 25, 99

L
Lancaster (Penna, USA), 311
Lancaster, (UK), 253, 266
Leerdam (Netherlands), 164, 165, 167
Leicester(UK), 129, 210, 237, 263, 265, 308
Leiden (Netherlands), 164
Liège (Belgium), 282
Livonia (Mich, USA), 7
Loch Awe, (Scotland), 50
London (UK), 64, 76, 80, 104, 106, 133, 137 154, 155, 171, 182, 203, 210, 211, 236, 244, 254, 288, 289
Los Angeles (Calif, USA), 8, 275, 311, 312

M
Madhya Pradesh (India), 30
Madrid (Spain), 300
Malm, (Norway), 301
Manchester (UK), 123, 197
Massachusetts, (USA), 77, 252
Mechelen (Belgium), 145
Michigan (USA), 7, 19, 298
Middlesburg (Netherlands), 164

Middlesex (UK), 186, 187
Milwaukee (USA), 266
Minnesota (USA), 129
Missouri (USA), 77, 237
Mitcham (Surrey, UK), 264
Moscow (USSR), 210, 234, 294
Moudon (Switzerland), 103, 182
Mountain View (Calif, USA), 269

N
Namaqualand (Africa), 98, 99, 100
Netherlands, 39, 83, 84, 164, 165, 167, 181, 200, 202, 215, 225, 229, 251, 261, 299, 305 306
New Jersey (USA), 37, 57, 127, 233
New York (USA), 128, 161, 298
Newark (NJ, USA), 127
Newcastle (UK), 85, 150
North Dakota (USA), 8, 9
Northampton (UK), 190
Norway, 301
Norwich (UK), 180
Nottingham (UK), 168, 241

O
Ohio (USA), 181, 265
Oldenzaal (Netherlands), 225
Olifants River (Africa), 98
Ontario (Canada), 44, 45, 252
Oosterschelde (Netherlands), 202, 299
Orange Free State (S Africa), 297
Oregon (USA), 252
Orly Airport (Paris, France), 287
Oud Beijerland, 200, 299

P
Panna (India), 25, 33, 34, 35
Paris (France), 274, 287, 300
Pennsylvania (USA), 10, 311
Poole (Dorset, UK), 212
Port Nolloth (Africa), 98
Portland (Oregon USA), 252
Preston (UK), 253, 266
Puerto Rico, 252

R
Ramsey (NJ, USA), 57
Reading (UK), 10
Ringway Airport (Manchester, UK), 197
Rochester (NY, USA), 298
Romily (Cheshire, UK), 90
Rotterdam (Netherlands), 83, 84, 164, 181, 251, 261, 307
Rotterdam-Zestienhoven Airport, (Netherlands), 215

S
San Juan (Puerto Rico), 252
Scotland, 92, 94
Selby (Yorks, UK), 241
Sheffield (UK), 139
Sierra Leone (Africa), 30, 170
Slough (Bucks, UK), 154, 186
South Africa, Republic of, 99, 120, 149, 192, 221, 295, 297
South West Holland, 202
South Ockenden (Essex, UK), 181
Southern California (USA), 18, 48
Stockholm (Sweden), 307
Staffordshire (UK), 280, 281
Stone, (Staffs, UK), 281
Spain, 300
Springfield (Missouri, USA), 237
Suffolk (UK), 49
Surrey (UK), 49, 110, 159, 210, 244, 264
Sutton (Surrey, (UK), 110
Sweden, 80, 177, 211, 307
Swindon (Wilts, UK), 216
Switzerland, 54, 103, 104, 113, 128, 161, 170 182, 211, 278

T
Tanganyika Territory (Africa), 30
Taranto (Italy), 261
Teddington (Middx, UK), 186, 187
Temple City (Calif, USA), 18
Thornton Heath (Surrey, UK), 210
Toronto (Ontario, Canada), 44, 45
Torrance (Calif, USA), 310

U
Ufa (USSR), 246
United Kingdom of Great Britain and Northern Ireland (UK), 11, 19, 20, 27, 43, 46, 47, 48, 49, 53, 58, 64, 74, 76, 80, 85, 90, 92, 93, 94, 104, 106, 110, 123, 128, 129, 133, 137, 139, 142, 143, 144, 150, 154, 155, 158, 159, 168, 171, 172, 173, 180, 181, 182, 186, 187, 190, 197, 203, 208, 209, 210, 211, 212, 216, 226, 227, 228, 236, 237, 241, 244, 253, 263, 264, 265, 266, 276, 278, 280, 281, 288, 289, 291, 308
United States of America (USA), 7, 8, 9, 10, 18, 19, 37, 48, 57, 72, 77, 96, 103, 127, 128, 129, 161, 163, 181, 206, 208, 209, 210, 233, 235, 237, 238, 252, 265, 266, 269, 275, 298, 310, 311, 312
Union of Soviet Socialist Republics (USSR), 65, 129, 210, 234, 246, 249, 250, 294

V
Vancouver (BC, Canada), 155
Verona (NJ, USA), 37
Verneuil-sur-Avre (Eure, France), 199
Vicenza (Italy), 103
Vienne (France), 145
Vindhya Pradesh (India), 35
Vredendal (Africa), 98

W
Washington (DC, USA), 96
Waterburg (Connecticut, USA), 206
Watford (Herts, UK), 53
Weert (Netherlands), 39
Welwyn Garden City (Herts, UK), 278
Wiesbaden (W Germany), 254
Wiltshire (UK), 216
Wisconsin (USA), 311
Witham (UK), 158
Worcester (Mass, USA), 77, 252

Y
Yakutia (USSR), 249
Yorkshire (UK), 241

Z
Zaventem (Belgium), 145
Zeeland (Netherlands), 202
Zestienhoven (Rotterdam Airport, Netherlands), 215
Zurich (Switzerland), 278

TRADE NAME AND COMPANY INDEX

A
Aannenmings-en Wegenbouwbedrijf P.H. Offringa of't Harde, 215
Abrasive Dressing Tool Co, 19
Abwood Machine Tools Ltd, 142
ACCURATOOL, 76
ACROW, 125
Adam Machine Equipment Ltd, 142
Agate Products Ltd, 110, 112
Albion Chain Co Ltd, 171
American Omark Industries Inc, 252
Amersil Quartz Div, Engelhard Industries, 233
ANDERSON GRICE, 172
Apex Construction Co Ltd, 155
ARALDITE, 50, 112
Atomic Energy Commission, 37
Austin (Mason), E. P., 172
Australian Diamond Tool Co, 126
AUTO-DRYTEX, 181
AUTOFLOW, 106, 107
AUTOMATIC NAGEL TRANSFER, 291
Aveley Electric Ltd, 181
Avery Ltd, W. & T., 142

B
Bahrein Petroleum Co, 118
BAKELITE, 175
Balding Engineering Ltd, 180
BALLINGER, 135
Bapco's Drilling Department, 118
Baumann & Co, 303
B.B.C., 110
BEAVER TURRET MILLER, 180
Beer Precast Concrete Ltd, 44, 45
BEEVIL SPECIAL', 268
BELL SYSTEM, 73
Bell Telephone Laboratories, 277
Bendix Corp, 298
Benrus Watch Co, 206
Benzinger, Carl, 74
BESLEY GRINDING METHOD, 40, 42
BLANCHARD GRINDER, 37
BLANCHARD GRINDING METHOD 40, 41
Blankensee & Son Ltd, S., 171
BMC
see British Motor Corporation
Boley & Leinen Werkzeug- & Maschinenfabrik, 65
Bonded Diamond Products, 252
BOREMASTER TIPLAP, 19
BOREMATIC, 217
Boyles Bros, 150, 152
Briggs & Stratton, 236
BRINELL HARDNESS TESTER, 232
British Insulated Callender's Cables Ltd, Wire Mill Div, 76
British Motor Corporation, 46
British Timken, 190
British United Shoe Machinery Co Ltd, 43
Bruel & Kjaer, 236
Brush Instruments Div, Clevite Corp, 181
Bruyaux, A., 307
BRYANT SYMONS, 175, 176, 308
BUMPCUTTER, 239, 253, 266, 300
Burgess Products Co Ltd, 49
Burton Griffiths & Co Ltd, 180
BUSMC
see British United Shoe Machinery Co Ltd

C
Caledonian Grinding Agencies, 92
Caledonian Industrial Diamond Co, 92
California Marble Co, 312
CALI-GRIND, 92
CAPCO, 154
Caplin Engineering Co Ltd, 49, 154
Chain Belt Co, 266
CHIPMASTER, 226, 227
CHRISTEN, 289
Christensen-Longyear, 215, 300
CHURCHIL, 138, 141, 216, 217
CINCINNATI, 141, 216, 217
CL CONGO DRILLING, 295, 297
CLA, 16
Clevite Corp, Brush Instrument Div, 181
Clipper Manufacturing Co, 77, 210, 235, 237, 282, 283, 310, 311
CLIPPER HiSPEED, 310
CLIPPER COMPACT, 265
Cohen Machinery Ltd, George, 236
Cochester Lathe Co, 226
COLCHESTER CHIPMASTER, 226, 227
Combinatie Brug Oosterschelde, 299
Concrete Drilling Co Ltd, 123, 124, 136, 137
Concrete Drilling Co of London, 210
Concrete Sawing Equipment Ltd, 157, 158, 159, 198, 210, 244, 253, 294
CONCUT, 157, 159, 198, 244, 245, 267, 294
CONCUT 'BEEVIL SPECIAL', 268
CONCUT BUMPCUTTER, 239, 253, 266, 283, 284, 300
CONCUT JOINTMASTER, 160, 161,

239, 265, 267, 268, 282, 284
CONDRIL, 124, 125, 136, 137, 210, 294
CONGO DRILLING CL, 295, 297
Consolidated African Selection Trust Ltd, 30
Consolidated Rock Products Co, 18
COROMANT, 177, 178
CRAELIUS, 168
Craelius SA de Paris, 270, 272
CRAVEN, 138
CSE
see **Concrete Sawing Equipment Ltd**
Culver Diamonds Ltd, 236
Culver (Europées) Diamantcentrum, 236
Cutting Improvement Co, 76

D
DAF, 227, 228, 229, 230
Dallmeyer Ltd, J. H., 105, 106, 108
Dallow Lambert Ltd, 181
DASCOLENE, 278
Davidson Optronics Inc, 103
De Beers, 98, 99, 144, 157, 171
De Beers' Group, 120, 192
De Beers Mine, Kimberley, 25
DED-TRU, 143
DELAPENA 'SPEEDHONE', 181
Demant SA, 113, 114
DEV, 76
Dia-Chrome Co, 103
Dia-Chrome Inc, 90, 91
DIA-CROWN, 103
DIAFORM, 219
Diagrit Electrometallic Ltd, 25, 27, 185
DIALAP, 133
Diamant Boart SA, 199, 239, 282, 287, 300, 307
Diamant-Gesellschaft Tesch, 303
Diamant-Nickel, 303
Diamond Abrasive Wheels Ltd, 155
Diamond & Boart Products (Australia) Pty Ltd, 126, 309
Diamond Chrome Tools Ltd, 90, 91
Diamond Mining Industry (Vindhya Pradesh) Committee, 35
Diamond Tool Associates, 9
Diamond Tool Research Co, 275, 311
DIPROFIL, 13
Dixie Construction Co, 265
Doebeli AG, Erhard, 303
DOUBLE HEAD BIELEFELD UNION, 70
Dowding & Doll Ltd, 76
Doyle Ltd, J. T., 155
Drill Service (Horley) Ltd, 49
Drukker & Zn, D., 167, 200, 201, 202
DRYTEX, 181
Duracarb NV, 39
Dust Control Equipment Ltd, 181

E
Edibrac Hard Metals Ltd, 143
Edwards Co, H. C., 128
Eikhoff, Gebr, 303
Elb-Schliff Edmund Lang, 304
Elgar Machine Tool Co Ltd, 143
ELLISMINOR, 210
Ellis Optical Co, 210
EMB - ENGINEERED METAL BOND, 192, 193, 194, 195, 196, 221, 222, 223, 224, 289
EMB-S ENGINEERED METAL BOND GRIT, 196, 221, 222, 223, 224
EMI, 133, 135
ENDIA, 128
Engelhard Hanovia Inc, 35, 127
Engelhard Industries, Amersil Quartz Div, 233
ENGINEERED METAL BOND, EMB, 192, 193, 194, 195, 196, 221, 222, 223, 224, 289
Engineering Diamonds Ltd, 128
Engis Ltd, 11
ENGIS PRECISION SLOW SPEED LAPPING MACHINE, 48
English Drilling Co Ltd, 50
Enterprises Marchand de Bruxelles, SA, 269
Entreprises van de Kerkhove Frères, 269, 270
ERA, 139
Ets Perrot et Aubertin, 286, 287
Eveready Briksaw Co, 236
Explosive Power Tools Ltd, 264

F
Fairchild Semiconductors, 269
FBM Fabrique de Machines of Moudon, 103
Felker Manufacturing Co, 310
Ferraris Development & Engineering Co Ltd, 182
Fèvre et Cie, 285, 287
Flexello, Ltd, 190
FLEXIBOX, 15
Foraky Ltd, 168, 239, 241, 242
Fortuna-Werke, 304
Fosdalens Bergverks-Aktieselskab, 301
French Ltd, W. & C., 157, 158
Frenchtown Porcelain Co, 37
FRIATEST, 149

G
GAMET, 227
GARDNER, 72, 73
Gerrard Engineering & Manufacturing Co Ltd, 216, 218, 219
GATLING, 238
Gentry Carbide Tool & Die Co, 127
GERBEHAYE, 284
Glaces de Boussois, 69, 70
G.P.O., 123
GRADALL, 98, 99
GRASELLI, 205
Guntert & Zimmerman, 282, 283

H
HADFIELD SCLEROSCOPE, 141
HADFIELD WALDRICH SIEGEN, 138
Hahn & Kolb, 232, 303
HALL-ROW, 301
HAMCO, 238
HAMCO DIA-SAW, 238
HARD CORE DIAMOND, 150, 152, 295, 296, 297
Heald Machine Co, 77
HEALD BOREMATIC, 217
HEALD SIZE-MATIC, 46
Heesen, Willem, 165, 167
High Pressure Materials Laboratory, 157
Hilger & Watts Ltd, 186, 189
HILLMAN IMP, 289, 291, 292, 293
HI-LO, 310
HiSPEED, 310
Hoffmann Manufacturing Co, 173, 174, 175, 176
Honeywell Ceramics, 129
HONILO, 291
Hughes Tool Co, 77
Hunt Process Co, 8, 9
HYPREZ, 13, 15
HYPROCEL, 14, 15

I
I.C.I., 281
Nobel Division, 262
I.E.A. Exhibition, 277
IMP, 289
Ind Coope, 123
Indian National Mineral Development Corporation Ltd, 30
Industrial Distributors (Sales) Ltd, 192
Industriediamanten GmbH, 303, 304
Instituto Eduardo Torroja, 300
Interspan Press Services, 1

J
Jameson Ltd, J. L., 53
JOINTMASTER, 160, 161, 239, 265, 267, 268, 282, 284
Jones & Shipman Ltd, A. A., 185, 189, 265
Jordan Construction Co, 265

K
Kadia-Diamant-Werkzeugfabrik, 291, 293
KEITH, 77
KELLER, 15
KERRY, 20
KNELLER, 211
KNSM
see Royal Dutch Steamship Co
KOMBI-SCHLIFF, 142
Koni NV, 200, 201, 202, 299
Koninklijke Nederlandse Glasfabriek 164
KOPP, 149
Kuzmick Co, Paul, 37

L
L. A. Gauge Co Inc, 275
Lagny, 285
Laing Construction Ltd, John, 197
LAPMASTER, 15, 48, 154
Lapworth & Partners, Herbert, 168
LCC Southern Outfall Works, 137
Leavell, C. H., 265
Leerdam Unica, 167
Leitz (Instruments) Ltd, 143
LIENHARD, 75
LINDNER, 141
Lion Diamond Tool Co, 294
LMB Components Ltd, 26
LONGYEAR, 215
LORCH, 144
Loughton & Sons Ltd, 182
LOXONS, 126

M
McAlpine & Son, Sir Alfred, 239, 265, 266, 268
McMinn Asphalt Co, 311
Machine Tool Trades Association, 18
MALCUS, 200, 202, 211
Manganese Bronze Group, 154
Manganese Bronze Ltd, 49
MAP MIXED AFRICAN PRODUCTION, 295, 297
Marathon Equipment, 45
Markite Corp, 57
Marples, Ridgway, Christiani & Nielsen - Joint Venture, 244
Materials Synthesis Dept, Standard Telecommunications Laboratories, 94
MATRIX, 217, 288, 289
Mayer & Burger
see Meyer & Burger
Mécanique et Plastique SA, 54, 55
Meyer & Burger, 144, 278
Meyrat et Luisoni, 171, 182
M.H.D., 262
MICOR, 78, 79, 81
Micrometrical Div, Bendix Corp, 298
Midhage, AB, Jack, 80
Midhage Co, Jack, 78, 79, 80, 81
MIKROKATOR, 275
MINILOAD, 143
Mining Research Establishment of the National Coal Board, 50
Ministry of Transport, 265
MIXED AFRICAN PRODUCTION MAP, 295, 297
Molco Drilling Machines Inc, 96
MOHOLE, 120
MOORE, 219
Mosses & Mitchell Ltd, 79
MP MACHINES, 54
MSO Maschinen- u Schleifmittelwerke AG, 304
MULTIMAT, 129

N
NAGEL, 290, 293
NA-JET, 49
Namaqualand Ventures, 98, 99
National Coal Board, Mining Research Establishment, 50
National Concrete Sawing Inc, 18, 48
National Jet Corporation, 49
National Mineral Development Corporation Ltd, 35
Navan Products Inc, 238, 269
NAVONIC, 238
N.E.L., 208
Nemag NV, 261
NEWALL-KEIGHLEY, 46, 47
NICKOLS, 76
Nissel & Co Ltd, G., 254, 256, 257
Nitroglycerin AB, Physical Research Laboratory, 262
Nobel Div, I.C.I., 262
North of Scotland Hydro-Electricity Board, 50
Norton Abrasives Ltd, 143, 278
Norton Co, 103
NUTCRACKER, 16

O
Ocean Science & Engineering SA (Pty) Ltd, 120
Omark Industries Inc, 252

P
Pagani, 285
Panna Diamond Mining Syndicate Ltd, 34
PANTOGRAPH, 15
Parker Pen Co, 311
Parsons & Co Ltd, C.A., 78, 85, 89
Paton Hawksley Electronics, 279
Pavement Specialists Inc, 237
Payne Products International Ltd, 154
PENETRASCOPE, 141
PERCAR, 270, 272
Perrot et Aubertin, Ets, 220, 286, 287
PERTH-O-METER, 232
Physical Research Laboratory, Nitroglycerin AB, 262
Picard et Frère Ltd, Henri, 211
Pilkington Bros Ltd, 307
Pilkington Research Laboratories, 189
PLEITZ, 99
Podolsky & Co Ltd, E., 171
PORTLAND STONE, 83, 84
Programme Committee for Machine Tool Standards, 18
Projectina Co Ltd, 128
PYREX, 91

Q
Quickfit & Quartz, 280, 281

R
Rank Organization, 263, 308
Rank Taylor Hobson, 237, 263, 308
Ransomes & Rapier Ltd, 190
RAPID CORE DRILL ANCHOR, 264
RAWL, 301
RAWLBOLT, 301
REHNBERG-JACKSON, 72, 73
REICHERT, 201
Revue Thommen AG, 104
REX, 266
Rheinische Zahnbohrer- u Kleinfräserfabrik, 303
Ringland-Johnson Construction Co, 235
Rock Mechanics Ltd, 50
Rockeater, MV, 120
ROCKWELL, 204, 232
Rockwell Machine Tool Co Ltd, 288, 289
Roditi International Corporation Ltd, 154
Rolls Royce Ltd, 175, 176, 279
Rootes Group, 291, 292, 293
Rossco, 225, 231
ROTO-SET, 310
Royal Dutch Steamship Co, KNSM, 307
Rudkin & Riley Ltd, 211

S
SAFAG, 177, 179
SAFG
see Société Auxiliaire de Façonnages sur Glaces
Sandvikens Jernverk, 177, 178, 179
SCHOU, 144
SCLEROSCOPE, 138
Selson Machine Tool Co Ltd, 211
SERPENTINO, 83
Shackman & Sons Ltd, David, 74, 75, 203
Shaw & Son (Diamonds) Ltd, A., 144
Sidley Diamond Tool Co, 148
SINE-RAD, 154
SIXIS, 171
SIZE-MATIC, 46
SLIP FORM, 282, 283, 284
Smart & Brown (Machine Tools) Ltd, 289
Smit & Sons, J. K., 294
Smith, Fullerton Ltd, 92
SND Selected Natural Diamonds, 127
SND-MB, 192, 193, 195, 221, 223
Société Carrières et Scieries de Comblanchien, 285, 287
Société Cievet-Pommier, 285
Société de Faconnages sur Glaces, SAFG, 69, 70, 75
Société Derville, 285
Société du Diamant Industriel, 160, 162, 283, 300
Société Française des Nouvelles Carrières de Comblanchien, 285
Société Général de Matériel d' Entrepreneurs SA, 282, 283
Société Génévoise, 170
Société les Pierres Bourguignonnes, 285
Soil Mechanics Ltd, 168
SOLEX, 293
Solid State Physics Laboratories, Rolls Royce Ltd, 279
SPANDAU, 47
Spanish Industrial Diamond Tool Manufacturers Association, 300
SPEEDHONE, 181
SPRAYWELD, 148
STALEVEL, 310
Standard Telecommunications Laboratories, 93, 94, 95, 276, 277, 278
Standard Communication Laboratories, 276, 277, 278
Stedall Machine Tool Co Ltd, 144, 288
Stithians Joint Water Committee, 168
Stokvis & Zonen NV, R.S., 181
Stone & Co, J., 58
STUTTGART, 205
Sun Engraving Co, 1
Sun Printers Ltd, 51, 53
Sun Tool Co Ltd, 69, 70, 71
SUN'S GOSS, 53
Sunley & Sons Ltd, Bernard, 123
Super-Cut Inc, 7, 70, 210, 312
SUPERFIX, 179
SUPERMATIC, 310
SUPFINA, 217
Supreme Tri-Bit Co, 7

T
TALYSURF, 170, 237
Taylor & Co (Leicester) Ltd, 129
TAYLOR HOBSON TALYSURF, 170, 237
Taylor & Sons, John, 30
Telara, Carlo, 251
Technopromimport, 294
Thermal Syndicate Ltd, 135
Thomas & Co Ltd, E., 168
TIPLAP, 19
Tous Diamant, 171
TRAVERTIN, 83
Triefus Industries Ltd, 43, 49, 154, 257
TRIPLEX, 153
Triumph Needle Co, 265

U
UFIMETS, 246, 247
Ultra High Pressure Units, 149
Unilever, 83
UNITAS, 265
United Glassworks, 164
Universal Grinding Wheel Co, Ltd, 144
Urbanek & Co, Joh, 303, 304
Urma Weiss GmbH & Co, 303
URMA-ROLETTE, 180

V
Van Moppes & Sons (Diamond Tools) Ltd, L. M., 50, 51, 53, 94
Van Moppes Ltd, S. L., 144
VAN MOPPES CHISEL POINT DRESSER, 135
Van Tetterode, F., 305, 307
VARIO KLISHOGRAPH, 1, 2, 3, 4
VAURIAN STONE, 83, 84
VIBRO-TOOL, 49
Vickers Ltd, 58
VISCOMETER, 110

W
WADKINS, 25, 29
WAFFLE-IRON, 276, 277, 278
WAKEFIELD HONILO, 291
WALDRICH SIEGEN, 138
Wall Colmonoy Ltd, 146, 147, 148
Watson & Sons Ltd, W., 264
WELL SEPARATOR, 92
Wendt KG, Fritz, 143, 302, 303
Western Electric Co, 72
Westwind Turbines Ltd, 211, 212, 213, 214
Whitehead Torpedo Co, 58
Wickman-Scrivener Ltd, 228
Williamson & Partners, James, 50
Winter & Sohn, Ernst, 108, 302, 303, 304
Wire Mill Div, British Insulated Callender's Cables Ltd, 76
Wirth & Co, A, 60, 61
WISCONSIN, 244, 245, 309
Woof & Sabine Ltd, 264

X
X-17, 128
Xerox Corps, 298

Y
Yorke & Partners Ltd, F., 104

Z
Zwicky (London) Ltd, G., 104, 144, 289

Printed by KENION PRESS LTD., *Slough, Bucks.*